REPORT:

METROPOLITAN BRIDGES.

Ordered, by The House of Commons, *to be Printed,*
14 *July* 1854.

[*Price* 7*s.* 6*d.*]

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1854. XIV.

REPORT

FROM THE

SELECT COMMITTEE

ON

METROPOLITAN BRIDGES;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE,

MINUTES OF EVIDENCE,

APPENDIX AND INDEX.

Ordered, by The House of Commons, *to be Printed,*
14 *July* 1854.

Jovis, 23° die Februarii, 1854.

Ordered, THAT a Select Committee be appointed to inquire into the State and Condition of the BRIDGES over the THAMES in the METROPOLIS; to report whether they are adequate to the present vastly-increasing traffic; whether it be desirable to construct one or more Bridges over the River, and, if so, at what point or points; whether it would be desirable to provide, out of local funds, the means of throwing open to the Public the present toll-paying Bridges; and, if so, upon what terms such Bridges could be thrown open.

Mercurii, 1° die Martii, 1854.

Committee nominated of,—

Mr. Oliveira.
Sir William Molesworth.
Lord John Manners.
Lord Robert Grosvenor.
Sir James Duke.
Sir Benjamin Hall.
Mr. Wilkinson.
Mr. Blackett.
Mr. Alderman Cubitt.
Mr. Alderman Challis.
Mr. Pellatt.
Lord Alfred Hervey.
Mr. Jackson.
Mr. Locke.
Sir John Shelley.

Ordered, THAT the Committee have power to send for Persons, Papers, and Records.

Ordered, THAT Five be the Quorum of the Committee.

Veneris, 16° die Junii, 1854.

Ordered, THAT it be an Instruction to the Committee to extend their Inquiry to the Bridges over the Thames within the area subject to the Coal-tax.

Veneris, 14° die Julii, 1854.

Ordered, THAT the Committee have power to Report their Observations, together with the Minutes of Evidence taken before them, to The House.

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REPORT.

THE SELECT COMMITTEE appointed to inquire into the STATE and CONDITION of the BRIDGES over the THAMES, in the METROPOLIS, to report whether they are adequate to the present vastly increasing Traffic; whether it be desirable to construct one or more Bridges over the River; and, if so, at what Point or Points; whether it would be desirable to provide, out of Local Funds, the Means of throwing Open to the Public the present Toll-paying Bridges; and, if so, upon what Terms such Bridges could be thrown Open; and who were instructed to extend their Inquiry to the Bridges over the Thames within the Area subject to the Coal Tax, and who were empowered to report their OBSERVATIONS, together with the MINUTES of EVIDENCE taken before them, to The HOUSE:——HAVE considered the Matters to them referred, and have agreed to the following REPORT:

YOUR Committee have examined witnesses with a view to discharging the duty entrusted to them, and have, in the first place, directed their attention to the state and condition of the several Metropolitan Bridges. With respect to these, they have to report that, with two exceptions, namely, Blackfriars and Westminster, the whole of the Metropolitan Bridges are in a satisfactory and durable condition. Southwark, Waterloo, and Vauxhall Bridges, and Charing-cross foot Bridge are toll-bridges in the hands of private companies. As to Blackfriars Bridge, the evidence brought before Your Committee leaves no doubt as to its being in an unsatisfactory state; and the Court of Common Council has approved of a proposal for removing the present structure, and replacing it by a new bridge. Your Committee do not consider it within their province to report on the condition of Westminster Bridge, as a contract for pulling it down and rebuilding it has actually been entered into.

R. L. Jones, 1–15. F. Brand, 2–6. R. L. Jones, 1–10. S. Bateson, 3–11.

With regard to the adequacy of the present bridges in the Metropolis to accommodate the existing traffic, Your Committee have examined numerous witnesses, whose opinion they consider valuable as connected with the bridges; and they report that the present accommodation is insufficient; that there is every probability of this deficiency being still further felt, and that it is necessary to adopt measures to mitigate the evil. To meet this end, several schemes have been submitted to Your Committee: 1st. It is proposed to open free of toll those bridges which are at present private property. 2dly. To increase the width, and consequently the convenience of some of the existing bridges. 3dly. To enlarge and improve the approaches to them. 4thly. To make the Thames Tunnel available for traffic. 5thly. To construct a tubular iron superway, so as to connect the most important points in the Metropolis; and, lastly, to build additional bridges.

After a careful consideration of the evidence which has been brought before them, Your Committee consider that the expediency of removing the present tolls, on the different bridges between Staines and London Bridge, is established. They find that, by the present system, the traffic is diverted from the direct route; and, in consequence, the open thoroughfares are choked, and rendered at times almost impassable, by the collection of merchandise and passenger traffic, which would disperse and spread itself if there were more channels of escape provided. This inconvenience is especially felt at London Bridge, where

S. Lang, 1, 2.

where not only delay, but even danger is incurred by the concentration of traffic on one spot, owing not only to the ordinary London traffic, but to the additional traffic produced by the neighbouring railway termini. Similar inconvenience is felt at Westminster Bridge; and Your Committee are of opinion, that in both instances it would be materially diminished if the intermediate toll bridges were thrown open to the public. The evidence with respect to the bridges from Vauxhall to Staines establishes the fact that, by the present tolls, not only is the public inconvenienced, local trade impeded, and the accommodation diminished, but that the burden of the tax falls most heavily on those who are least able to bear it.

J. R. Maclean, 3. 8.

Your Committee are of opinion that, although it may become necessary, owing to the ever-increasing traffic of the Metropolis, to build additional Bridges, it will be better, in the first instance, to ascertain the effect of throwing the present Toll Bridges open to the Public, provided they can be obtained on reasonable terms.

Upon the question as to whether additional Bridges are required, Your Committee have examined Mr. Bennoch, Mr. Tite, Mr. Page, Mr. M'Lean, and other competent witnesses. These witnesses agree in the necessity for providing further means of communication across the River.

The sites proposed by them are—

1st. Tower Hill, below London Bridge.

2dly. St. Paul's.

3dly. Charing Cross.

4thly. Horseferry Road.

Without entering into the comparative merits of these several propositions, Your Committee are of opinion, that the Bridges opposite Charing Cross and St. Paul's will become speedily necessary, especially should the negociation with the proprietors of the toll-paying Bridges prove abortive.

With regard to the best mode of providing for the purchase, and the future maintenance, and increase of the bridge accommodation, Your Committee are decidedly of opinion that a rate to be levied over the whole of the district to be benefited by the proposed alterations is at once the most just and the most simple plan to be adopted.

14 *July* 1854.

PROCEEDINGS OF THE COMMITTEE.

Martis, 7° *die Martii*, 1854.

MEMBERS PRESENT:

Lord John Manners.
Mr. Pellatt.
Mr. Oliveira.
Mr. Blackett.
Sir Benjamin Hall.
Lord Alfred Hervey.
Sir William Molesworth.
Sir John Shelley.
Mr. Wilkinson.

Mr. OLIVEIRA was called to the Chair.

[Adjourned to Tuesday next, at One o'clock.

Martis, 14° *die Martii*, 1854.

MEMBERS PRESENT:

Mr. OLIVEIRA, in the Chair.

Mr. Blackett.
Mr. Alderman Challis.
Mr. Alderman Cubitt.
Lord Alfred Hervey.
Mr. Jackson.
Lord John Manners.
Mr. Pellatt.
Mr. Wilkinson.
Sir John Shelley.
Sir James Duke.

Samuel Laing, Esq., M.P., and Mr. *R. L. Jones*, examined.

[Adjourned to Tuesday next, at One o'clock.

Martis, 21° *die Martii*, 1854.

MEMBERS PRESENT:

Lord ALFRED HERVEY, in the Chair.

Mr. Oliveira.
Sir James Duke.
Mr. Wilkinson.
Mr. Alderman Challis.
Sir Benjamin Hall.
Sir John Shelley.
Mr. Jackson.
Mr. Pellatt.

Mr. *Tyrrell*, City Remembrancer; Mr. *Ferdinand Brand*, Mr. *James Mulling*, and Mr. *Francis Bennoch*, examined.

[Adjourned.

Martis, 9° *die Martii*, 1854.

MEMBERS PRESENT:

Mr. OLIVEIRA, in the Chair.

Lord Robert Grosvenor.	Sir John Shelley.
Mr. Pellatt.	Mr. Alderman Cubitt.
Lord Alfred Hervey.	Mr. Alderman Challis.
Mr. Wilkinson.	Mr. Locke.

Mr. *James Walker*, Mr. *John Robinson Maclean*, Mr. *Samuel Bateson*, and Mr. *Thomas Page*, examined.

[Adjourned till Tuesday next, at One o'clock.

Martis, 16° *die Maii*, 1854.

MEMBERS PRESENT:

Mr. OLIVEIRA, in the Chair.

Mr. Wilkinson.	Mr. Alderman Challis.
Sir John Shelley.	Mr. Blackett.
Mr. Jackson.	Mr. Locke.
Mr. Pellatt.	

Mr. *Robert Few*, Mr. Alderman *Salomons*, Mr. *Price Richard Baly*, Mr. *Jeremiah Evans*, and Mr. *Isambard H. Brunel*, examined.

[Adjourned till Tuesday next, at One o'clock.

Martis, 23° *die Maii*, 1854.

MEMBERS PRESENT:

Mr. OLIVEIRA, in the Chair.

Sir James Duke.	Mr. Alderman Cubitt.
Mr. Alderman Challis.	Mr. Pellatt.
Sir John Shelley.	Mr. Locke.
Mr. Jackson.	Mr. Wilkinson.
Sir Benjamin Hall.	

Mr. *John Plews*, Mr. *George Powell*, Mr. *George Rennie*, Mr. *George Walker*, Mr. *James Leith*, and Mr. *John Pym*, examined.

[Adjourned.

Jovis, 15° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. OLIVEIRA, in the Chair.

Sir James Duke.	Mr. Locke.
Lord Alfred Hervey.	Mr. Alderman Cubitt.
Mr. Wilkinson.	Sir Benjamin Hall.
Mr. Pellatt.	Lord Robert Grosvenor.
Mr. Jackson.	

Room cleared.

Motion

Motion made (Sir *B. Hall*), "That the Chairman be instructed to move The House, 'That it be an instruction to the Committee to extend their inquiry to the bridges over the Thames within the area subject to the coal tax.'" Question put, and agreed to.

Mr. *William Tite*, Mr. *Thomas Page*, Mr. *John Williams*, Mr. *Benjamin W. Horne*, and Mr. *Price R. Baley*, examined.

[Adjourned till Thursday next, at One o'clock.

Jovis, 22° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. OLIVEIRA, in the Chair.

Lord Alfred Hervey.	Mr. Alderman Cubitt.
Mr. Wilkinson.	Lord Robert Grosvenor.
Mr. Jackson.	Mr. Alderman Challis.

Mr. *John Guy*, Mr. *Frederick Gould*, Mr. *George W. Andrews*, Mr. *Evan Hare*, Mr. *Edward Phillips*, Mr. *Thomas Hitchins*, and Mr. *Henry Selfe*, examined.

[Adjourned till Thursday next, at One o'clock.

Jovis, 29° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. OLIVEIRA, in the Chair.

Mr. Wilkinson.	Lord Alfred Hervey.
Mr. Alderman Cubitt.	Mr. Jackson.
Lord Robert Grosvenor.	Mr. Pellatt.

Mr. *Thomas Ashley*, Mr. *Frederick Ashley*, Mr. *Edward Wilson*, Mr. *Francis Jackson*, Mr. *Robert Smith*, Major *Charles R. Boileau*, Mr. *Evan Hare*, Mr. *Henry Chase*, Mr. *Charles Edward Gemmet*, Mr. *Edward Tyrrell*, and Mr. *George R. Burnell*, examined.

[Adjourned till Thursday next, at One o'clock.

Jovis, 6° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. OLIVEIRA, in the Chair.

Mr. Alderman Cubitt.	Sir John Shelley.
Mr. Blackett.	Mr. Jackson.
Mr. Alderman Challis.	Lord Alfred Hervey.
Mr. Pellatt.	

Mr. *Stephen S. Taylor*, Mr. *Frederick H. Janson*, Mr. *Robert Bealham*, Mr. *Henry H. Mason*, and Rev. *Charles Woodward*, examined.

[Adjourned till Thursday next, at One o'clock

Jovis, 13° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. OLIVEIRA, in the Chair.

Sir William Molesworth.	Mr. Wilkinson.
Mr. Jackson.	Lord Robert Grosvenor.
Mr. Pellatt.	Mr. Locke.
Mr. Blackett.	Sir John Shelley.
Lord Alfred Hervey.	

Draft Report proposed by the *Chairman*, read 1° as follows:

"The Select Committee appointed to inquire into the state and condition of the Bridges over the Thames, in the Metropolis, to report whether they are adequate to the present vastly increasing traffic; whether it be desirable to construct one or more Bridges over the River; and if so, at what point or points; whether it would be desirable to provide, out of local funds, the means of throwing open to the public the present toll-paying Bridges; and, if so, upon what terms such Bridges could be thrown open, and who were instructed to extend their inquiry to the Bridges over the Thames, within the area subject to the Coal Tax, and who were empowered to report their Observations, together with the Minutes of Evidence, taken before them to the House: Have considered the matters to them referred, and agreed to the following Report:

"Your Committee have taken evidence upon the several points referred to them, and upon the question of the state and condition of the Bridges over the Thames. They are of opinion that London Bridge, Southwark Bridge, Waterloo Bridge, Charing Cross Bridge, and Vauxhall Bridge, are all in a substantial and durable state; Blackfriars Bridge does not appear to be in a satisfactory condition, but requires considerable repair or rebuilding. Westminster Bridge, being under contract to be pulled down and rebuilt, Your Committee have not thought it within their province to inquire into it.

"All the witnesses concur in thinking, that great inconvenience is felt in the overcrowding of the main thoroughfares of the Metropolis, which is certain to increase, and that additional bridges would mitigate this evil; or by throwing open those bridges which at present pay toll, a considerable benefit would be derived by the public, especially by opening Southwark Bridge, and widening the approach to it on the City or Middlesex side; and by throwing a gallery over the sides of London Bridge for foot passengers, thus adding the present footway to the carriage road.

"Upon the question of whether additional Bridges are required, and if so, at what point or points they should be constructed; Your Committee have examined Mr. Bennoch with reference to a proposed new Bridge, nearly opposite St. Paul's Cathedral; which, if constructed, would permit traffic north and south to cross the River without deviation, and thus prevent many annoying street obstructions, as well as open up a fine view of the Metropolitan Church.

"It has also been stated, that the directors of the Charing Cross Bridge contemplate an alteration of that structure, to render it available for carriage traffic. Mr. Page suggests the construction of a bridge below London Bridge, 'in the line of Tower Hill, along the road adjoining the western warehouses of St. Catherine's Dock,' which Your Committee think worthy of attention.

"As to whether the toll-paying bridges should be thrown open, to provide the means out of local funds, and the terms upon which such bridges could be thrown open; Your Committee have ascertained that in the case of Southwark and Waterloo Bridges, the receipts from toll are very inconsiderable as compared with the cost of those structures; * and upon this head Your Committee beg to refer to their recommendation at the end of this Report.

* *See* Appendix.

"Your Committee made inquiries into the capability of the Thames Tunnel as an auxiliary in facilitating metropolitan traffic; and, according to the opinion of Mr. Brunel and Mr. Page, the outlay of 150,000 *l.* in approaches would accomplish that object.

"Whilst Your Committee has been sitting, petitions from Fulham, Kingston, Hampton, and Staines were referred by Your Honourable House to them, praying an extension of the inquiry to those localities; and by resolution of Your Honourable House the inquiries of Your Committee were extended to the area subject to the Coal Tax. Your Committee have examined witnesses from the localities referred to; and found that the effect of toll upon Bridges in the rural districts is not only unpopular, but injurious to trade, tends to depreciate the value of property, and is felt to be a severe tax upon the poorer classes, whose occupations may compel them to cross the River daily. A very general opinion has been expressed, that the levying of a rate, or the continuance of the Coal Tax, would be far preferable to the charge now made upon certain Bridges.

Your Committee, therefore, recommend that, with a view to some general plan for improving the communications between the two sides of the River Thames, in the counties of Middlesex and Surrey, including the Metropolis, an Act should be introduced during next Session of Parliament, wherein may be embodied all such clauses as may be found necessary to provide for the construction and maintenance of new Bridges, if and where needed; the redemption and support of those now liable to toll; as also to provide the necessary funds, either by way of rate, or by a participation in the Coal Tax, if that tax should be continued; and that in the introduction of such a measure, it is most desirable to have the sanction and support of Her Majesty's Government, as well as the concurrence of the Corporation of London, or that of the Board of Works for the Metropolis, suggested to be formed by the Royal Commissioners in their Report upon the Corporation of the City of London, if that Board should be created, as therein recommended."

Draft Report proposed by Mr. *Jackson*, read 1° as follows:

"The Select Committee appointed to inquire into the state and condition of the Bridges over the Thames, in the Metropolis, to report whether they are adequate to the present vastly

vastly increasing traffic, and whether it is desirable to construct one or more bridges over the river; if so, at what point or points; whether it would be desirable to provide, out of local funds, the means of throwing open to the public the present toll-paying bridges; and, if so, upon what terms such bridges should be thrown open: Have agreed to the following Report:

"Your Committee have examined witnesses with a view to discharging the duty entrusted to them, and have, in the first place, directed their attention to the state and condition of the several metropolitan bridges. With respect to these, they have to report that, with two exceptions, namely, Blackfriars and Westminster, the whole of the metropolitan bridges are in a satisfactory and durable condition. Of those in good repair, Southwark, Waterloo, and Vauxhall Bridges, and Charing-cross Foot Bridge, are spoken of by persons well competent to form an opinion as being in the most substantial state. These, however, are toll-bridges, and in the hands of private companies. London Bridge is reported by Your Committee in a satisfactory condition. As to Blackfriars Bridge, the evidence brought before Your Committee leaves no doubt as to its being insufficiently perfect; and the Court of Common Council has given its approval to a proposal for entirely removing the present structure, and replacing it by a new bridge. Your Committee does not consider it within its province to report on the condition of Westminster Bridge, as a contract for pulling it down and rebuilding it has actually been entered into.

R. L. Jones, 1–15.
F. Brand, 2–6.
R. L. Jones, 1–10.
S. Bateson, 3–11.

"With regard to the adequacy of the present bridges in the Metropolis to accommodate the existing traffic, Your Committee have examined numerous witnesses, whose opinion they consider especially valuable as connected with the bridges; and they report that the present accommodation is altogether insufficient; that there is every probability of this deficiency being still further felt; and that it is imperatively necessary to adopt measures to mitigate the evil. To meet this end, several schemes have been submitted to Your Committee: 1st. It is proposed to open free of toll those bridges which are at present private property. 2dly. To increase the width, and consequently the convenience of several of the existing bridges. 3dly. To enlarge and improve the approaches to them. 4thly. To make the Thames Tunnel available for traffic. 5thly. To construct a tubular iron superway, so as to connect the most important points in the Metropolis; and, lastly, to build additional bridges.

"After a most careful consideration of the evidence which has been brought before them, Your Committee consider that the expediency of removing the present tolls, on the different bridges between Staines and London Bridge, is established beyond the possibility of a doubt. They find that, by the present system, the burden is most unequally divided; the traffic is diverted from the most direct route; and, in consequence, the open thoroughfares are choked, and rendered almost impassable, by the collection of merchandise and passenger traffic, which would disperse and spread itself if there were more channels of escape provided. This inconvenience is especially felt at London Bridge, where not only great delay, but even danger is incurred by the vast concentration of traffic on one spot, owing not only to the ordinary London traffic, but to the enormous additional transit produced by the neighbouring railway termini. Similar inconvenience is caused by the 'cross-traffic' at Westminster Bridge; and Your Committee is decidedly of opinion, that in both instances it would be materially diminished if the intermediate toll bridges were thrown open to the public. The evidence with respect to the supra-metropolitan bridges establishes conclusively that, by the present tolls, not only is the public inconvenienced, local trade impeded, and the accommodation and safety diminished, but it is also found that the burden of the tax falls most heavily on those who are least able to bear it. The local feeling in favour of a change of this nature has been most unequivocally declared, for the witnesses examined by Your Committee testify to the hardships produced by the existing tolls, and are nearly unanimous in their anticipation of the good effect to be produced by distributing the burden of maintaining and increasing the present accommodation.

S. Laing, 1, 2.
J. R. Maclean, 3. 8.
Rev. E. Woodward, 9. 7.
Major Boileau.

"Your Committee is also of opinion that the present and prospective state of the metropolitan traffic renders the building of several new bridges, in addition to the means already recommended, imperatively necessary. With respect to the sites best applicable to this purpose they have examined several well-qualified witnesses, and they recommend to Your Honourable House to adopt the suggestions of Mr. Page, viz., that a bridge should be built below London Bridge; the approach on the Middlesex side to be from Tower Hill, the height of which should be such as not to obstruct the navigation as at present established. The large population east of London Bridge, on both sides of the river, renders this proposition particularly advisable, as the want of accommodation has long been felt, and Your Committee cannot recommend any alteration in the approaches to the Thames Tunnel, as the result of such alteration would not, in their opinion, be adequate to the expense. They further report in favour of the suggestion of Mr. Tite, to build a bridge to be approached from the north by a continuation of Aldersgate-street, at Old Change, in the neighbourhood of St. Paul's, which would not only materially relieve the traffic which at present flows east and west, but would also open out the approaches to, and the view of the Metropolitan Cathedral.

Thos. Page, 6. 10.
B. W. Horne, 6. 14.
Walker, Laing, Jones, Leith, Brunel, Tite, 6. 1.

"And Your Committee is also impressed with the necessity for providing another bridge in the immediate neighbourhood of Charing Cross. The evidence in favour of this is conclusive, but with regard to the mode of carrying out the plan they lay before Your Honourable House two suggestions: first, to build an entirely new structure at this point; and,

secondly, to alter the existing Suspension Bridge, so as to admit of carriage as well as passenger traffic. In connexion with this subject, Your Committee wish to urge upon your honourable consideration the necessity for providing a sufficient thoroughfare on the Surrey side for the enlarged traffic which will be there collected by the increased bridge accommodation.

"The evidence which Your Committee have taken with reference to the bridges above Vauxhall satisfies them that an immediate change is called for in the management of them. The tolls on all of them are sources of great annoyance and injury to the public; many of them are insecure and insufficiently managed, and are a serious injury to the value of the adjoining property; and Your Committee have come to the conclusion that it is absolutely requisite that the whole of the bridges, as far as Staines, should be made free, and placed under the care and control of a Trust, and that Parliamentary powers should be granted for that purpose.

"With regard to the best mode of providing for the purchase, and the future maintenance, and increase of the bridge accommodation, Your Committee are decidedly of opinion that a rate to be levied over the whole of the district to be benefited by the proposed alteration is at once the most just and the most simple plan to be adopted. They suggest that this rate should extend over the area of the present Coal Tax, and that it should be based on an equitable adjustment of the owners and occupiers of the property which will be affected beneficially by the improvements which they have recommended. In making this suggestion, Your Committee feel that it is the one which will give the greatest satisfaction to the public, as by this means the taxation will be spread over the largest population, and by this means, too, all will contribute to the advantage in which all participate."

Motion made and Question proposed, "That the Draft Report proposed by the Chairman be now read a second time." Amendment proposed to leave out the words "the Chairman," and to insert the words "Mr. Jackson" in lieu thereof. Question, "That the words 'The Chairman' stand part of the Question," put and negatived. Words "Mr. Jackson" inserted accordingly. Question, as amended, put and agreed to.

Draft Report, proposed by Mr. Jackson, read a second time, paragraph by paragraph.

Several Amendments made.

Amendment proposed (Lord *R. Grosvenor*), at the end of the Report, to add the words following: "But they consider the facility of communication throughout the Metropolis to be so far an Imperial concern, as to warrant the giving facilities on the part of Government for raising the necessary funds." Question, "That these words be there added," put. The Committee divided:

Ayes, 3.	Noes, 5.
Sir J. Shelley.	Mr. Locke.
Lord R. Grosvenor.	Mr. Pellatt.
Mr. Wilkinson.	Lord A. Hervey.
	Sir W. Molesworth.
	Mr. Jackson.

Report, as amended, agreed to.

Ordered, To Report.

EXPENSES OF WITNESS.

NAME of WITNESS.	PROFESSION or CONDITION.	By what Member of Committee Motion made for Attendance of the Witness.	Total Number of Days in London.	Expenses of Journey to London and back.	Expenses in London.	TOTAL Expenses allowed to Witness.
				£. s. d.	£. s. d.	£. s. d.
Mr. Robert Smith -	Solicitor - - -	Chairman - -	1	- 6 -	2 2 -	2 8 -

MINUTES OF EVIDENCE.

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MINUTES OF EVIDENCE.

Martis, 14° *die Martii*, 1854.

MEMBERS PRESENT.

Mr. Oliveira.	Mr. Jackson.
Mr. Wilkinson.	Lord John Manners.
Mr. Alderman Challis.	Sir James Duke.
Lord Alfred Hervey.	Mr. Blackett.
Mr. Pellatt.	Mr. Alderman Cubitt.
Sir John Shelley.	

BENJAMIN OLIVEIRA, Esq., IN THE CHAIR.

Samuel Laing, Esq., a Member of The House, Examined.

S. Laing, Esq. M. P.

14 March 1854.

1. *Chairman.*] YOU are Chairman of the London and Brighton Railway Company?—I am.

2. As Chairman of that Company, I presume you know pretty well the condition in which London Bridge is at present?—Yes; my attention has been called very much to the state of London Bridge.

3. Do you think the bridge is in a solid condition, as regards its permanence?—That is a point upon which I do not feel competent to give any opinion. My attention has been called merely to the insufficiency of the space for the very crowded traffic that has to pass over it.

4. Do you think it is insufficient for the traffic which at present frequents that locality?—There is not the least doubt of it.

5. Does that inconvenience your railway at all with respect to the departure of the trains?—It inconveniences the passengers very much who have to go by the railway, because you cannot rely with any punctuality upon catching a train; you are obliged to allow yourself often half an hour for a distance for which a quarter of an hour would be amply sufficient if the approach to the railway were wider.

6. Are there any other railways about to be opened in that locality which will increase the difficulty?—The opening of the Crystal Palace will very greatly increase the difficulty that is at present experienced upon it, by augmenting the number of passengers coming to the London Bridge terminus. I may mention also that, independently of the Crystal Palace, the traffic to the London Bridge terminus is increasing most rapidly. In the course of about five years, during which I have been connected with the Brighton Railway, the number of passengers has very nearly doubled, and it is going on increasing every day.

7. Will you be kind enough to acquaint the Committee how many railways diverge from the other side of London Bridge?—From that terminus you have the London and Greenwich Railway; the North Kent Railway, to Woolwich, Gravesend, and Chatham; the South Eastern Railway, to Dover and other parts of Kent; the Brighton and South Coast Railway; the London, Croydon, and Epsom Railway; and, in addition to these, you will have the Crystal Palace Railway in the course of a very few months.

8. Have you any suggestions to make with reference to facilitating the traffic over London Bridge?—As far as the railway traffic is concerned, there are several measures which would give it great relief. The more immediate suggestion that has occurred to us has been that of projecting the footways of London

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Bridge over the waterway by means of brackets or iron girders built into the bridge, which I am told by our engineer would be a very easy, and comparatively inexpensive operation, and that by that means you might get a wider footpath than at present, and throw the whole of the existing footway into the carriage road; that is the first measure that would give very great relief to the railway traffic. The other measure which has been suggested, as even more important for the carriage traffic to the railway, would be carrying out an improvement which has been proposed, by making a new road commencing from the Westminster-road, just on the Surrey side of the bridge, going through Southwark, and coming into the Borough on the Surrey side of London Bridge; that would, of course, relieve London Bridge of a great amount of traffic in carriages and cabs which now passes over it.

9. You mean that the traffic then would be conducted over one of the other bridges, and so approach the London Bridge terminus?—Yes; in that case a great deal of traffic which now crosses London Bridge would cross Westminster Bridge, or possibly Waterloo Bridge, to some little extent, if the proposed new road were connected with the Waterloo-road.

10. Would the alteration of which you have spoken, by projecting footways over the bridge, not interfere with its solidity?—I am told not by the engineer; of course that is an engineering question, and I only speak from the opinions of others; they tell me it would be a very easy operation.

11. Is there any other mode by which the traffic might be facilitated?—I think the traffic of foot passengers to the railway terminus would be somewhat facilitated by the construction of improved steam-boat piers adjoining London Bridge on the Surrey side, and by the construction of an arched tunnel under the bridge, similar to that which exists upon the London side, over Thames-street, by which passengers disembarking from steam-boats on the west side of London Bridge might go through the tunnel, and get up on the other side without having to cross the carriage road.

12. Mr. *Jackson.*] By making an extra arch under the bridge?—Yes; there is an extra arch on the London side of the bridge, and the proposal is to have a similar tunnel on the Surrey side of the bridge, with good steam-boat accommodation; it would relieve the stream of foot passengers to some extent; I think the want of accommodation for foot passengers is one of the most pressing wants just now; the stream of people at particular times of the morning and afternoon pouring from the different railways across London Bridge, both causes very great delay, and causes great danger; I am astonished that so few accidents take place at those times as appear to take place.

13. Do not you think when the West End Railway is opened, which is to communicate with the Crystal Palace, it will give great relief to the traffic to and from the London Bridge terminus?—No; because the whole of the east end of London, the most crowded and populous part of the metropolis, will still naturally go to the London Bridge station as the nearest; whatever traffic to the Crystal Palace we get at the London Bridge station will be in addition to the present traffic, the amount of which is quite enormous; if I just mention the figures of the existing amount of traffic, that will show how enormous it is. The total number of passengers travelling on the Brighton Railway, which in 1848 was only 2,485,778, had increased in 1853 to 4,491,561; that is irrespective of the vast numbers travelling by annual or periodical tickets. I have had a calculation made of the proportion of that number who go across London Bridge, and I find that taking the different lines of railway I have enumerated, the lines of the South Eastern Company, and the lines of the Brighton Company, the total number of passengers crossing London Bridge annually, to and from, may be taken at about nine millions and a half; that would give an average of upwards of 25,000 a day for the whole year; but of course that number is by no means uniformly distributed; and on particular occasions, and during the summer season, you have twice that number very often.

14. And in addition to that, the trains go at certain hours, so that the stream of passengers is not regular, but is much larger at certain hours than it is at others?—Yes, that is the case; the great mass of passengers up to London come in, in the morning, from the hours of eight and nine to eleven, and they go down again in the afternoon. I speak from experience, residing a great part of the year down at Brighton, and being constantly obliged to run it rather closely in catching the trains; and I know the extreme inconvenience and difficulty

culty of getting across London Bridge. I find by experience that I am obliged to make an invariable rule of never taking a cab, if I am anywhere to the eastward of Temple Bar, because I cannot calculate to a quarter of an hour the time of getting over London Bridge.

15. Mr. *Wilkinson.*] You find it more certain to walk?—Much more certain to walk.

16. Mr. *Jackson.*] Do you know from your own experience, or from reports made to you as Chairman of the Railway Company, whether many passengers are disappointed in getting to trains by which they desire to go, in consequence of the want of free access over London Bridge?—No doubt about it; passengers are constantly disappointed in that way, and come too late for the trains.

17. Arising from the crowded state of the thoroughfare on that bridge?—Of the bridge and the approaches to it; the bridge, of course, is only one element in the question.

18. Mr. *Wilkinson.*] Now that the new street is opened to get to St. Paul's, I suppose the bridge will form the chief obstacle?—Yes; but from Temple Bar up to St. Paul's Churchyard you will always be liable to be blocked up. For the purpose of access to the west of London, the great improvement would be the line of street to which I have referred, from the Westminster-road to London Bridge.

19. Lord *J. Manners.*] Is that the street which was proposed a few years ago on the part of the inhabitants of Southwark?—Yes, that is the same street; I believe there were some funds accumulating for the purpose.

20. Are you aware what the estimated cost of that street was?—I do not know the precise estimate.

21. Nor the amount of the funds which you said were accumulating for the purpose of making it?—No; I think I have heard it said that there was something like 80,000 *l.* available.

22. Mr. Alderman *Cubitt.*] Was it not the fact that 80,000 *l.* was to be allowed by the Government out of the coal duties for the purpose, but that the estimated cost of the new street had no reference to that 80,000 *l.*?—Yes; but I believe the estimated cost of the street would depend entirely upon the value of the frontage that would thereby accrue for disposal. I have heard Alderman Humphery, who has interested himself in the matter a great deal, express a very strong opinion that the value of the new frontage that would be created along the line of that street would pay for the whole expense of making it.

23. You have said that during the five years that you have been Chairman of the London and Brighton Railway Company the traffic has been doubled. Did you mean that the traffic on the London and Brighton line itself has been doubled, or did you mean that the number of persons using the station for other lines, as well as the Brighton, had been doubled?—The total number of passengers is about doubled; and I imagine that the increase which has taken place to the Brighton station will be in a rather larger proportion than the increase in the whole number using the London Bridge terminus, because the increase has been larger upon the suburban traffic of the Croydon line than upon the others.

24. So that taking it altogether, the increase in the number of persons using the bridge during the five years that you have been there must have been very great indeed?—I should think it has at least doubled in the course of five years; and I have no doubt that it will be doubled again in the course of the next five years, irrespective of the Crystal Palace traffic.

25. Lord *J. Manners.*] How do you arrive at that calculation of nine millions and a half that cross over the bridge to and from the railway every year?—I arrive at it by taking the number of passengers who are booked in and out from London Bridge by the different lines.

26. Mr. Alderman *Challis.*] But they do not all go over London Bridge?—A comparatively small number of them may have come in cabs along the Surrey side.

27. Lord *J. Manners.*] Have you taken the whole, or only a proportion of those who take tickets from London Bridge station?—I have no hesitation in saying, from my knowledge of the railway traffic, that considerably more than four-fifths of them cross London Bridge; nine-tenths I should say at least cross London Bridge.

28. But the figures you have mentioned represent the whole of those who take

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take tickets from the London Bridge station?—Yes, including those who may have gone away by the Surrey side.

29. Mr. *Pellatt.*] Of the average number of 25,000 passengers daily, how many do you think come in carriages or cabs?—I can only give a guess upon that point without inquiry; but I should think a comparatively small number; a fifth of them perhaps.

30. Then the traffic over the bridge would be very much relieved if those carriages took the new route which you suggest, going from your terminus through Southwark, and over Westminster or Waterloo Bridge?—It would relieve the traffic of carriages over London Bridge to a very great extent.

31. Can you form any idea to what extent it would relieve London Bridge of carriages?—I should think it would take fully two-thirds of the carriages coming from the railway, for this reason, that people coming from the City, from a short distance, for whom London Bridge would be most convenient, would, generally speaking, not come in carriages, but walk. Most of those who took carriages would be those going to the western and north-western districts of London, in which case they would all prefer the new road, crossing either Waterloo or Westminster Bridge.

32. You do not think that Westminster and Blackfriars Bridges are so overcrowded as to prevent their bringing some passengers to and from the proposed new road?—They are not so much crowded as London Bridge.

33. Are you of opinion, that if Waterloo and Queen-street Bridges were thrown open free, a great number of carriages would then come across those bridges to your terminus?—I think Waterloo Bridge would be crossed by a considerable number of carriages if you had the street to which I have referred. The great obstacle to their crossing either Westminster or Waterloo Bridge now, is the impediments which they encounter in the labyrinth of narrow streets about Barclay's brewery and that district, on the Surrey side of the river as you approach London Bridge. With respect to the other bridge to which the question refers, Southwark Bridge, the throwing that open to the public would be of no use for the traffic to the railway unless it was accompanied by the construction of some new street leading from it to the London-bridge Road.

34. Do you happen to know whether the 80,000*l.* which has been mentioned is enough to provide for what is wanted, up to Queen-street Bridge, on the Southwark side?—No; I do not know how far it would go.

35. Mr. Alderman *Cubitt.*] You said that you contemplated an archway on the Surrey side of London Bridge, similar to the dry arch on the Middlesex side of London Bridge; but was not the archway which has been contemplated, a tunnel to be made through the bridge, from the landing of the stairs on the one side to the landing of the stairs on the other side, for foot passengers, so that foot passengers coming by the steam-boats, landing above the bridge, and going up the stairs, might pass through the tunnel under the bridge, and so avoid crossing the road; is not that the proposed archway to which you were alluding?—Yes, that is what I referred to; I think such an archway or tunnel would be a great convenience to enable passengers coming by steamers on the Surrey side to cross the line of traffic.

36. Mr. *Wilkinson.*] But passengers using that tunnel would still have to cross the end of Duke-street?—Yes; but they would avoid having to cross the main line of traffic.

37. Lord *J. Manners.*] Out of what funds is it proposed to make this tunnel?—I am not aware.

38. Mr. Alderman *Cubitt.*] Do you happen to know whether the persons who built the bridge have had it under consideration?—I know that a petition has been got up by persons in the neighbourhood, and has been signed by the companies, in favour of a tunnel of that sort.

39. Mr. Alderman *Challis.*] Have the railway companies ever considered that it would be for their interest to contribute largely to such a thing?—I think the railway companies would feel that if they were once to admit the principle of contributing largely to metropolitan improvements which would facilitate access to the railway, all their funds would be speedily swallowed up. We are already large ratepayers, and as ratepayers we contribute our just proportion to such improvements.

40. *Chairman.*] How would you provide funds for constructing the footways suggested to be projected over the sides of London Bridge?—I am not aware what

what funds are specially at the disposal of the Corporation of London and the Bridge House Committee; but I understand that the Corporation of London and the Bridge Committee have control over the bridge at present, and I should look certainly to their providing the funds. If you are going to adopt any more comprehensive scheme of control over all the bridges and metropolitan improvements, that of course raises the whole question as to the best way of raising the money. It would probably have to be levied to some extent by local rates.

41. Mr. *Wilkinson.*] You naturally conclude that the same parties who built the bridge, would provide the necessary funds for making it larger?—As long as the Corporation of London have the control over the bridge, I suppose it is their duty to make it passable for the public.

42. Mr. Alderman *Challis.*] By "the control of the bridge," you do not mean that the Corporation can exclude any of the public from coming over it, but you mean, that whatever traffic may be brought to this bridge, there rests a responsibility on the Corporation, or whoever built it, to make it adequate to the traffic?—I fancy the Corporation have large funds applicable to certain purposes, and I should imagine that maintaining the bridge in a proper state of efficiency for the public traffic was one of the objects to which those funds would be applicable.

43. *Chairman.*] Would the alteration which you suggest involve the stoppage of the traffic over London Bridge at all?—I think not; but that is a question of engineering detail which I have never looked very closely into, because having no power to execute anything of the sort, and seeing no immediate probability of it, we have not gone closely into the plans.

44. Mr. *Jackson.*] Looking at the nature of the traffic which flows from the suburban districts of London over the bridges, do you think that it would be an unjust measure to tax the district which is now taxed by the coal duties for the purpose of keeping open, and in repair, and constructing all bridges necessary to a perfect communication between both sides of the Thames?—That of course involves a very large question of policy as to how funds should be raised for these metropolitan improvements. I do not pretend to have considered that subject very closely; I can only give you my individual impression about it. My impression is, certainly, that you must look at London as one great whole, and that you ought to have some large central body, however elected, who should control and superintend all these great improvements—whether roads or bridges, or sewage or drainage, or other great public purposes—and that the funds for those purposes must be levied by rates within the metropolis, and not imposed upon the country; and that probably the adjustment of the rates for particular districts might be made according to some sort of approximate estimate of the extent to which particular districts might be benefited in comparison with the whole.

45. Lord *J. Manners.*] Do you share in the general feeling against the coal duties?—The coal duty is of course a very heavy tax upon the inhabitants of London, and of the area of 20 miles around it, when you get beyond the metropolis itself, into the country.

46. Supposing you had to establish some metropolitan fund, out of which the expenses of these metropolitan improvements may be provided, do you think that the coal duty would be a more objectionable method of taxation for that purpose than any other method that might be adopted?—If carried to the extent of an area of 20 miles, I think it is an unjust and harsh tax upon the inhabitants of the country; but if it is confined within the fair area of the metropolis, I am not then so sure, if the money must be raised, that it is a worse mode of raising it than by a system of direct taxation; but it should be confined to the district benefited.

47. Mr. *Jackson.*] Does your observation of unfairness apply to the coal duties as they exist, or would it apply to a rate levied over the same district?—It applies to the districts within the operation of the coal duties; districts so remote in the country, that they really have no more connexion with the metropolis, or metropolitan improvements, than many places 100 miles off.

48. Considering the enormous amount of consumption which takes place in the metropolis of agricultural produce, produced within a circle of 20 miles round London, and considering the increased facilities of access to London which the parties living within the circle would have by an increased number

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of bridges, and by better approaches to them, do not you think it is only just and fair that they should join in paying a rate for the purpose of providing that increased accommodation?—Hardly over so large an area; I see no principle, for instance, upon which such a town as Reigate, which is just within the limits of the 20 miles radius, should be taxed for metropolitan improvements, while such a town as Brighton, which is 50 miles distant, should escape untaxed.

49. Sir *J. Shelley.*] Does not it appear to you, as regards the coal-tax, that the pressure is more heavy upon the poorer classes of London than upon those of a higher grade; does not that strike you as being one great objection to the tax on coals?—Yes; no doubt all taxes upon articles of general consumption press more hardly in proportion upon the poorer than upon the richer classes of the community.

50. Mr. *Blackett.*] Do not you think that those coal duties have a particularly bad operation in excluding the cheap kind of small coal from London, which is so largely consumed in the North?—I have no doubt the effect of the tax on coals is exceedingly bad; coals are an article of necessary consumption, and used as a raw material in most descriptions of trade and manufacture, and of course any import duty upon such an article, whether it is coals coming from one part of our own country, or an article like corn, coming in from abroad, the effect is exceedingly bad; for my own part, I should prefer direct taxation to indirect in that case.

51. Mr. Alderman *Challis.*] Do not you believe that London Bridge would be quite sufficient for the traffic over it, supposing the termini of the different railways which you have spoken of had not been brought into the immediat vicinity of London Bridge; would not the bridge have been large enough for the ordinary traffic of merchandise?—It would have been large enough for the ordinary foot-passenger traffic, but it would have been inconvenient probably for the heavy traffic of waggons, and so on, upon it.

52. Considering that this bridge was built at an enormous expense for the benefit of the public, does not it appear to you to be unjust to the parties who have largely contributed to the expense of building this bridge, that in consequence of the termini of the railways coming there, and affording a facility of travelling to all parts of the country, they should be taxed for the purpose of providing accommodation for the increased traffic so brought over the bridge?—No, it does not occur to me that it would be so, because these railways are amongst the greatest instruments of the prosperity of London. If you had no railways London would be a very different place from what it is.

53. Mr. *Jackson.*] Do not passengers coming by railways produce an increase of expenditure in every vicinity over the whole district to which their traffic goes, and thereby cause a benefit to the community, much greater than the injury which they would sustain by the imposition of a rate for the purpose of paying for this accommodation?—I think so.

54. Lord *J. Manners.*] Do you think, for instance, that Spitalfields is greatly improved or benefited by the railway that goes through or over it?—Yes; I should say that that part of London was greatly benefited by the construction of the railways leading to London. There would be great difficulty in showing the connexion in many particular cases; but take, as an example, that article which has been referred to just now, viz., coals. There is no doubt that during this winter, when the prices were so exorbitant, the price of coals in London was materially checked by the possibility of bringing them by railway. That is a benefit in which Spitalfields participates. Again, the artisan of Spitalfields feels the benefit of being able to get down to the country on an excursion to get a little fresh air for his wife and children, with a convenient terminus immediately adjoining one of the bridges.

55. Mr. *Jackson.*] Assuming it to be the fact, as shown by the reports of the various railway companies, that 650,000 tons of coals were brought into London by the different railways for the consumption of the metropolis, what would have been the effect upon the price of coals if that quantity had not come?—I do not think the consumers of coal in London would have got through a portion of last winter without paying 10*s.* or 20*s.* a ton higher than they did.

56. Sir *J. Shelley.*] In order to relieve the enormous traffic over London Bridge, can you recommend to the Committee any particular position for a new bridge, supposing such a thing were to be contemplated, as regards the railways with

with which you are connected?—As regards the railway traffic, I have already pointed out the measures that I think would afford the most effective relief, and I do not think any new bridge would materially relieve the railway traffic, unless it were connected with a new road, giving a very wide approach to London Bridge, on the Surrey side; if there were a wide carriage road along the Surrey side, close by the river, of course a second bridge, somewhat in a line with Southwark Bridge, would relieve it.

57. Mr. *Jackson.*] If the present foot-bridge at Hungerford Market were converted into a carriage-bridge, would not it relieve London Bridge from part of the traffic to the South Eastern and the Brighton and other railways connected with that station?—There is Waterloo Bridge in that neighbourhood also; I think that the best approach would be by Westminster and Waterloo Bridges; I think that the bulk of the traffic coming from the West-end to the terminus of the Brighton or South Eastern Railway would take either Westminster or Waterloo Bridge.

58. Would not Charing Cross be a very valuable place to have a bridge to start from?—Yes; but the question depends, not so much upon the position of the bridge itself as upon the approaches to it. At present, nothing can be better as a bridge than Waterloo Bridge; it being perfectly level, and very little crowded.

59. *Chairman.*] If Southwark Bridge were thrown open, would that facilitate the traffic much with regard to the railways?—Not unless it were accompanied by some measure for carrying a wide street on the Surrey side direct to the railway station.

60. Mr. *Jackson.*] Do not you think that, looking at the amount of traffic which converges from Charing Cross, that would be the more desirable part to cross the river at than to travel along a crowded street, like the Strand, to Waterloo Bridge, taking into account the peculiar bend which the river takes there?—Taking into account the peculiar bends which the river takes, I think the bulk of the West-end traffic would always come over Westminster Bridge; the river takes a bend to the north below Westminster Bridge, and if you go across Westminster Bridge you take the cord instead of going round the bow.

61. Considering the enormous amount of population which there is above and to the south-west of Charing Cross, would not the public be better accommodated by having a bridge there than they would be by travelling round to Westminster Bridge?—If you had a good wide approach, and a bridge from Charing Cross, no doubt a considerable amount of traffic would come that way.

62. Assuming that good approaches could be got, would not Charing Cross be the best spot at which to place a bridge for the accommodation of the public generally?—Yes, if you had a good wide approach to it.

63. *Chairman.*] Are you acquainted with the Thames Tunnel?—Very little.

64. Have you at all turned your attention to the question whether the Thames Tunnel might be used as a means for facilitating the traffic, if carriage approaches were made to it at each end?—I am not sufficiently acquainted with it to justify me in expressing any positive opinion; but I think not. From the little I know of it, knowing some parties who reside in Rotherhithe, near the Tunnel, and who have large establishments there, I think the general opinion is rather against the Tunnel being much used in that way.

65. Are there not many heavy goods that go from the docks into the country, that might pass through the Tunnel if it were open for traffic?—They might; but the great difficulty is running your approaches a long way up in order to get an easy slope. I believe in the Tunnel you will have to carry them so far back as to be considerably out of the way from any of the leading thoroughfares along the river.

66. Mr. *Wilkinson.*] With respect to the West-end traffic, I suppose that except what goes by omnibuses, very little of that goes over London Bridge at present, but that almost all the West-end traffic goes the other way, somewhat in the direction of the road which you propose to have made?—Yes, a great proportion of it.

67. Then the line of road which you have proposed to make for the West-end traffic going to the railways, would not very much ease the traffic over London Bridge?—Not very materially; but with respect to the traffic going to the northern parts of London, to the London and North Western and Great Northern stations, it probably would decide them to take the Surrey side if there were a

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road over Waterloo Bridge, in preference to the London Bridge route, so that to some extent it would relieve London Bridge, but not to a very great extent.

68. Sir *J. Duke.*] You were asked whether you did not consider the tax upon coal as bearing more hardly upon the poor than upon the rich; have you made any estimate of the quantity of coals which a poor person is supposed to consume in this metropolis in a year?—No; I merely said generally, that a tax which enhances the price of a necessary article like coals is more felt by the poor man than it is by the rich.

69. You have not made any estimate of the quantity of coals which a poor man consumes in a year?—No, I merely speak generally; just as I should say that a tax upon corn or sugar, or tea or coffee, is a tax that presses more hardly upon the poor man than upon the rich.

70. Lord *J. Manners.*] Have you read the evidence which was given a few years ago by some of the parties most largely interested in the consumption of coal before a commission upon the subject of the coal duty in the metropolis; if not, would you be surprised to hear that the opinion expressed by those large consumers of coal was diametrically opposed to what you have expressed; they saying that the coal duty bears far more heavily upon them than it does upon the humbler classes of the metropolis?—That is a question which almost anybody may answer without any peculiar sources of information. It is obvious that a man who is conducting a large manufactory, consuming a large quantity of coal, will have to pay a very large amount of tax; all that I say is, that generally anything that enhances the price of an article of consumption, a first necessary of life, does upon the whole press more heavily than direct taxation upon the poorer classes.

71. Mr. *Wilkinson.*] Even as regards the manufacturers, so far as it diminishes the power of a man to employ labour, it must fall heavily upon the poorer classes?—Yes.

72. Mr. *Jackson.*] Is it not evident that if a man is taxed upon the raw material he uses before he begins to employ others, he must be disadvantageously situated; for if you impose a tax of 7½ per cent. upon his raw material, he cannot work to the same advantage as another party that is not so taxed, and consequently the poor will feel the effect of this tax indirectly, by his not being able to employ them to the extent that he otherwise would?—Yes.

73. Mr. *Blackett.*] Is it not the fact that the small coal in the North, which is sold there at such a trifling price per ton, and is capable of being extensively used by the poor, is absolutely excluded from London by the operation of this tax?—The coal duty being a fixed duty of 1 *s.* 2 *d.* a ton, it of course forms a very much heavier per centage upon the coals to which you allude than it does upon the more valuable household coals.

74. Is it not the fact that that coal is quite excluded from London by the operation of this tax?—I am not aware that it is entirely excluded; but the tax operates in the way alluded to, of preventing the establishment of manufactures here in competition with manufactures in other places. They depend much more upon the smithy coal or engine coal, cheap coal, than upon household coal. The tax, which is only 1 *s.* in 20 *s.* or 25 *s.* upon household coal, may be a tax of 10 per cent. upon the smithy coal, which may be one of the principal articles upon which they depend for conducting their manufacture.

75. Mr. *Jackson.*] If the price of slack in Manchester is 4 *s.* a ton, and it cannot be used here in consequence of the duty of 1 *s.* (that being equal to 20 per cent. upon its cost), does it not place the manufacturer in London at a disadvantage?—Yes; that may be easily illustrated in many ways. For instance, as regards making coke for railways, one effect of the tax of 1 *s.* a ton upon small coals, the prime cost of which is about 5 *s.* a ton, is to transfer the establishments for making coke as much as possible beyond the radius of 21 miles round London.

76. Sir *J. Shelley.*] Are you aware that the tax upon coals is mortgaged to its full extent for some years to come, and that, consequently, there is no prospect, till that time has expired, of any funds being raised out of the coal-tax for the purpose of building bridges, or enlarging them?—I am quite aware of the fact that it is mortgaged, and therefore I presume that you must either continue the coal-tax, or find some sufficient substitute for it.

77. Mr. *Wilkinson.*] With respect to the question of local taxation generally, does it occur to you that there is any difference as between the metropolis and other

other towns in the country, inasmuch as every man in the country is interested in the metropolis; whereas the metropolitan inhabitants have not the same interest in any town in the country?—No, I do not admit any distinction in that respect, except as regards public edifices. You may properly erect your palaces and courts of justice, and Parliament houses, out of public money, because they are things in which the whole nation is interested; but local improvements, such as bridges and sewers, and so forth, are, I think, in the same position in London as in other towns.

78. Is it not the fact that persons in the country have more use of London than the people of London have of any places in the country?—I do not admit any distinction in that respect.

79. Mr. Alderman *Cubitt.*] Would you not admit a distinction between drainage and other objects of a local nature and the making of a bridge across a great river like the Thames, which is the means of communication between one part of the country and another?—I think a bridge is merely a portion of a street, and I do not see why you should tax the people of the kingdom generally to make a new bridge, any more than you should tax them for the widening of Cannon-street.

80. Sir *J. Shelley.*] I presume the erection of a bridge immediately increases the value of the property on each side of the river near the spot where it is made?—Yes, it would naturally do so.

81. Sir *J. Duke.*] Do you know what the practice is in counties with respect to building bridges. If a bridge is built at one end of the county, do not those who live at the other end of the county have to pay their share of the expense?—It seems to me that the same principle applies to London and the whole kingdom which might apply to Manchester and Lancashire. I do not think that you could tax all Lancashire for the improvement of a street within Manchester, although every Lancashire man might be indirectly interested in the improvement.

82. Mr. *Jackson.*] Do you know a single case in which a county has been taxed for town improvements?—No, I am not aware of any.

83. Mr. Alderman *Challis.*] Have the railway companies ever contemplated a small tax upon each passenger for the purpose of raising a sum to build a bridge, such as a halfpenny apiece?—No; the railway companies already pay to the public a tax of 5 per cent. upon their receipts for each passenger. They are also rated for local purposes, upon a very high scale, in a great many instances. I do not consider that they are called upon to contribute towards local improvements in a higher proportion than according to their local assessments.

84. You have already told us that this large outlay which is required, in order to afford increased accommodation to the traffic, would have been unnecessary but for the bringing of the railway terminus close to London Bridge. Therefore, if the local public are taxed for this purpose, they are taxed to afford facilities for the railway?—I do not concur in that view. I think the railway is one of the great improvements which has grown up with the age, and it has not specially brought any burden into the City. I think you might as well say that if some building speculator built a large block of houses upon the Surrey side, and by so doing increased the population, and increased the traffic over London Bridge, he should pay some special tax towards the construction of a new bridge, beyond his equal share, according to his own rateable property within the district.

85. Do you see anything analogous between bringing 25,000 passengers in a day and building a block of houses?—The principle is just the same. Everybody who sets up a manufactory upon the Surrey side increases the traffic across London Bridge; and I think you might as well put a special tax upon him as upon the railways.

86. Mr. *Wilkinson.*] The bridge is built for the benefit of the public, and the public use the railway?—Yes.

87. Mr. Alderman *Cubitt.*] You were asked whether the London duty upon coal would not be likely to have the effect of prohibiting the slack used at Manchester from being brought into London. Can you state what is the price of slack at Manchester?—Four shillings a ton.

88. Can you state what increase of cost would be put upon the slack if brought from Manchester by railway carriage. How much would that enhance

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the cost?—It would depend entirely upon the policy of the railway company and the scale of charge which they chose to adopt. If their policy was to carry a very large quantity at a very trifling profit, I suppose they might bring it for 6*s.* or 8*s.* a ton very well.

89. Making it 10*s.* or 12*s.* a ton in London without the duty, whereas at Manchester it is 4*s.* a ton?—Yes; but that is a question which depends entirely upon the policy which the railway company might think proper to adopt. It will depend upon the amount of passenger traffic, and the extent to which the coal traffic might interfere with the more valuable passenger traffic. It is a very complex question, and the only way of solving the question is to see at what price the railway companies do bring it.

90. At any rate there are other causes why Manchester slack is not brought to London besides the London duty?—I think the operation of the London duty upon small coal is simply this: that upon this engine or smithy coal, which can be bought at Newcastle in the North for about 5*s.* a ton, it imposes a tax of 1*s.*

91. But should not you rather reckon the per centage of the London tax upon the price that the coal would otherwise be in London, and not upon the price of the coal at the pit's mouth?—Certainly. I can tell you the extent to which it operates; for my railway company buys those coals very largely indeed. Those coals cost 5*s.* a ton at the pit's mouth, and the price averages about 7*s.* a ton after paying freight and the expenses of bringing them here. So that the City tax is a tax of about one in twelve.

92. Sir *J. Duke.*] When did you get ships at 7*s.* a ton freight?—Not just now; but that would be the average of the last four or five years for the freight, and expenses here. It is a tax of about one in twelve; not quite 10 per cent.; it is from 8 to 9 per cent.

93. It is cheaper to carry coke than to manufacture it in London?—Yes.

94. You must have a particular kind of coal for your coke?—Yes; which coal is of a sort that is very available for engine purposes. A great deal of that coal at 5*s.* a ton is the coal we use in the factories for the purposes of engines. The result is, that upon the coal used for manufacturing purposes the City dues impose a tax of about 8 or 10 per cent.

Richard Lambert Jones, Esq., called in; and Examined.

R. L. Jones, Esq.

95. *Chairman.*] YOU have had a good deal of experience with reference to the bridges of the metropolis?—As respects London Bridge and its approaches, I have a great deal.

96. You were chairman of the committee under whose superintendence London Bridge was built?—Yes; it was built by the Corporation, under my superintendence, as chairman of the committee.

97. Is it, in your opinion, at the present time in a very sound condition?—I never heard the contrary.

98. Are you aware whether it is equal to the traffic at the present day?—I have heard many complaints that it is not.

99. Do you think that by any alteration in the construction, that would not interfere with its solidity, that might be remedied?—That is a question more for an engineer than for me; but whatever the advantage might be as to the traffic, I think the beauty of the bridge would be destroyed by such a measure.

100. You have heard the evidence of the preceding witness?—I have.

101. It would appear that the traffic over London Bridge is increasing so rapidly that some arrangements must be made to meet it. How would you suggest to provide for that increased traffic, if you did not adopt the suggestion of projecting the footways over the sides of the bridge?—The first step I would recommend before any new bridge was built would be to throw those bridges open which are now subject to a toll. I had some conversation with some of the largest proprietors, some years ago, the late Mr. Ward among others, whose family have a very large interest in the Southwark Bridge, and they complained that the proceeds of the toll were then so little; and I advised them to try the experiment of throwing it open for a year, because my opinion was that if it was thrown open for a year it would not only bring more traffic eventually, but it would divert a great deal of traffic from London Bridge.

102. That plan of throwing it open of course would not be desirable to the proprietors,

proprietors, however desirable it might be to the public?—I think it would be to the proprietors; because I think that I could prove, from my experience, that where the public have been diverted in the City of London, they have never gone back into the original line.

103. Mr. *Jackson.*] You would preserve the right of closing the bridge and reimposing the toll, but you would coax the public there by giving them the advantage of the bridge toll free for a year, and then after that you would exact a toll?—Yes, a small toll.

104. If you were a proprietor you would think that step advantageous?—I should.

105. Lord *J. Manners.*] How would the public reap any benefit from that?—They would have the bridge toll free for a year, and after that a lighter toll than they have at present.

106. Mr. *Jackson.*] You think that if the public were once coaxed to take that course, by the bridge being thrown open for 12 months, the increase of traffic would be such, that where a penny toll is now exacted, a halfpenny toll would suffice in future, and that the public would not be diverted by the small toll, and in that way both the public and the proprietors would be benefited?—I think so, for this reason, that the traffic is often so blocked up in the Borough, that they would be willing to pay a small toll to avoid that.

107. *Chairman.*] Throwing open Southwark Bridge, you think, would at present meet the difficulty?—I do not say to the fullest extent, but I say it would be an experiment worth trying to obtain those two bridges free of toll; because it must be obvious to every one that the great feeding traffic to the railway stations at London Bridge is from the West End of London.

108. You think that the present approaches would be sufficient as regards Southwark Bridge?—I think they would. There is a great improvement made in Queen-street.

109. Mr. Alderman *Challis.*] Have you considered the subject of the tunnel upon the Surrey side of London Bridge, which you heard the last witness mention, as one means of giving great facility to the public, viz., a tunnel through one of the arches?—That was a subject that was before the Corporation some years ago, and I gave them my opinion that, in the first place, without an Act of Parliament it could not be done, because Parliament had granted the power to make the bridge to the Corporation of London, on the condition that they should give five waterways, one of 152 feet, two of 140 feet, and two of 130 feet. Now that latter waterway of 130 feet would be very much interfered with; it would be almost annihilated if this plan were carried into effect, because the steam-boats would have to lie there before the stairs. It has been matter of public observation, and the Bridge House Estates Committee, I believe, have had it under consideration, but I believe they never sanctioned it. It would be something like stopping a public passage without any cause, and I think they would have no right to do it.

110. Mr. *Jackson.*] Assuming that power were given to make it by Parliamentary authority, do you think that a stage for the purpose of receiving steam-boat passengers, and enabling them to pass through the arch under the bridge, would afford that relief to London Bridge which the last witness has stated?—It would afford a portion of it, but not anything like what is required.

111. Mr. Alderman *Challis.*] The last witness stated that the throwing open of Southwark Bridge would not, in his judgment, divert much of the traffic which now passes over London Bridge, unless the approaches were improved; do you agree in that opinion?—As respects the road to the railways it would not, because the road on the Southwark side is so bad that you require a new street from the side of Barclay's brewery to come into Duke-street.

112. *Chairman.*] Is it not very much the case on this side of the river likewise, viz., at the Queen-street approach?—That has been improved, but of course they do not go that way for the railway, for the reason I stated, viz., the difficulty of approaching it on the other side of the river.

113. Mr. *Jackson.*] Putting the railway out of the question, and looking at the general traffic which takes place between the two sides of the river, do you think if Southwark Bridge were open to the public it would relieve London Bridge to any considerable extent?—I have always thought so.

114. *Chairman.*] So as to render a new bridge unnecessary?—I would not say that; the traffic would also be further relieved if Waterloo Bridge were thrown

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open, because the chief part of the carriage traffic to the London Bridge terminus is western traffic.

115. Do you think if the four bridges were free for the public there would then be sufficient accommodation for the wants of that portion of the metropolis east of Charing-cross?—I should doubt whether it would be sufficient; it possibly might; but before having a new bridge I would try that experiment.

116. *Chairman.*] Where would you suggest that a new bridge should be built to accommodate the traffic of the eastern part of the metropolis?—There has been one plan laid down through the Old 'Change, but my opinion is rather in favour of a medium between that and the end of Ludgate-hill, by Paul's-chain; I think Paul's-chain would give more relief than Old 'Change would give.

117. That would come into Cannon-street?—It would be beyond New Cannon-street; it would not interfere with New Cannon-street at all.

118. Lord *J. Manners.*] To what point would it be taken on the opposite side of the river?—I think through some glass works.

119. Near what street; would it be near Holland-street?—Farther up than Holland-street.

120. Mr. *Jackson.*] What portion of the metropolis on the Middlesex side would this new street accommodate?—It would relieve the City of London, and afford facility for any portion of the traffic in that direction to go over it; whenever there is a new bridge built, if there ever should be a new bridge built, I should hope a different site would be taken than Blackfriars, because there is nothing to induce the public to go over Blackfriars Bridge, there is such a great acclivity; and the relief which was created in London Bridge could not be created in Blackfriars Bridge, because the approach is in a valley; on the City side, whenever there is a new bridge built in that point, between Bridge-street and the eastward of London, it must be carried into effect, as we have in the case of London Bridge, by an arch over Thames-street.

121. Would not the approach be opposite St. Paul's Cathedral?—I believe it would come opposite the centre of St. Paul's Cathedral.

122. Would not that be an inconvenient place for the public to congregate to get across the river?—There must be large places created. It has been a favourite idea to throw open St. Paul's on the south side.

123. Lord *J. Manners.*] Is not the street very narrow there?—Yes.

124. And rather a steep ascent from the river?—Yes; my own opinion is, that the reason why that line has not been thought of, is because it interfered with the Prerogative Office and the proctors, and all those parties, and it was thought better to avoid doing that; but from what we see in the public papers, we are led to believe that all that is to be removed; and if that be so, that would be thrown open, and there would be such an avenue on the southern side of St. Paul's as has always been desired.

125. *Chairman.*] Is that place identical with Mr. Bennoch's plan?—No; his goes more to the east.

126. Sir *J. Shelley.*] You are well acquainted with the feeling of the inhabitants of the City upon this subject, and you have heard complaints of the insufficiency of London Bridge for the traffic; have those complaints led you to think that the inhabitants of the City would be prepared to have a tax levied upon them for the purpose of building a fresh bridge?—It would all depend upon what sort of a tax it was; if it was the tax which already exists, namely, the coal-tax, I think there would be very little objection to it.

127. But if it were an improvement rate, or a tax levied for the purpose of building a new bridge, do you think the inhabitants of the City would generally approve of such a tax?—I think they would not.

128. You are aware that this Committee is appointed for the purpose of inquiring "whether it would be desirable to provide, out of local funds, the means of throwing open to the public the present toll-paying bridges, and, if so, upon what terms such bridges could be thrown open." Do you think that, generally speaking, the inhabitants of London would like to have a rate levied upon them for the purpose of opening those bridges?—I think there would be a great objection on their part to it.

129. Mr. Alderman *Challis.*] What was the expense of building London Bridge?—The whole amount that went through my hands was upwards of two millions of money.

130. Mr. *Pellatt.*] From what sources?—Partly the Corporation and partly the coal tax.

131. In making your recommendation that the two bridges, which are now toll bridges, should be thrown open and made free, do you consider that the road which at present exists on the Southwark side would be sufficiently large?—No; it would require a considerable outlay to make it what it ought to be, more especially from Stamford-street.

132. The opening of the bridge would be of little use unless they had good roads on the south side?—It would afford no great accommodation as regards the railway, but as regards the advantage to persons going into Surrey a better road is of no importance, because there are good roads from the bridges towards Surrey.

133. Will you look at the plan before the Committee. (*A Plan being shown to the Witness.*) Is that according to your views?—There is no objection to the lines laid down here; the only point would be the expense.

134. Mr. *Blackett.*] Did I rightly understand you to say that you think that the public of London would prefer keeping the bridges as they are to paying a rate for the purpose of throwing them open?—Certainly.

135. They would rather put up with the inconvenience?—Yes, rather than have their pockets affected.

136. Mr. *Wilkinson.*] But you think they would not object to the continuance of the coal tax for this purpose?—No. With respect to the coal tax, I think there has been a great deal more noise about it than any evil inflicted by it. We obtained the great amount under the Duke of Wellington's administration; then we obtained upwards of 1,000,000 *l.* by one Act. At that time a great deal of evidence was gone into by the Committee to ascertain what the poor man would pay for the tax, and the result of the best information was that the poor do not upon the average consume more than a ton and half in the year. Therefore it was thought by the Committee that there was very little ground to object to the duty of 1*s.* a ton, though it was hardly fought by the Marquis of Londonderry and Lord Durham, and we sat thirty days in Committee upon that point. I have always been of the opinion that there has been much more noise made about the coal tax than the evil actually deserves. What did Barclay, the great brewer, say before the House of Commons? He said he would willingly pay 6*d.* a ton more if he could have open streets for the convenience of his trade.

137. Mr. *Blackett.*] Was it not at one time more than 1*s.* a ton?—Yes; it was formerly 6*s.* a ton, but 5*s.* was taken off by the Government, and which formerly went to the Consolidated Fund. The matter was taken off by Lord Goderich's administration, and then it was brought down to 1*s.* 1*d.*

138. Sir *J. Shelley.*] Are you aware that the coal-tax has charges upon it which will consume the whole of the tax until the year 1862, or thereabouts?—The importation of coals into London has so increased, that I do not think anybody can calculate what the amount will produce. It has quite deceived all the calculations which have been made.

139. Can you suggest to the Committee any way whereby the funds required for the purpose of these improvements can be raised?—I can only refer to the coal duty.

140. But the coal duty is mortgaged for some years to come?—Yes; but we know that the Government, some years ago, were enabled to raise a very large sum of money prospectively upon the coal duty.

141. *Chairman.*] It might be mortgaged for a period commencing after the expiration of the term for which the coal duty is granted?—Yes.

142. Mr. *Jackson.*] But Parliamentary power would be necessary for that?—Of course.

143. Sir *J. Shelley.*] I understand you to say, that you consider that the inhabitants of the City and of the metropolis generally would not like to have a tax imposed upon them for the purpose of these improvements. Have you any suggestion to make as to any scheme that could be devised, which the public would be likely to approve of, for having these improvements made?—No, I never entered into the consideration of that.

144. Mr. *Jackson.*] Do you think that the same parties who now have to pay the tax of a shilling a ton upon coal, would object to pay a penny in the pound for the purpose of having the bridges across the Thames thrown open toll-free, and having good approaches made?—I think they would strongly object.

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145. Sir *J. Shelley.*] Do you think that the inhabitants of a radius of 20 miles round the metropolis would like to have any increase of the tax upon coal?—No.

146. Mr. *Jackson.*] Do you think that a small rate, to be called a bridge rate, of a penny in the pound would be murmured against, if any person residing within 20 miles of London could have thereby an access to the very centre of it; and do not you think the improvement that property would receive from that access would be a compensation for the small payment which they would have to make?—I do not think the improvement of property in the City of London would be to that extent to justify a rate of a penny in the pound; though I have always been of opinion that as regards new bridges and new churches, wherever they are placed, the property will be improved, and the public get a benefit by it.

147. Would not every person who grows produce of any sort within a certain radius round London feel the benefit of having ready access to the consumers here by improved bridges and approaches, and do you think that he would object to pay a small rate for that purpose, on the same principle on which Mr. Barclay said that he should not object to an additional 6*d.* per ton on the coal for the sake of having improved thoroughfares for his drays?—But there is this difference; the thoroughfares in the neighbourhood of Mr. Barclay's premises are very confined, and his waggons and drays are continually being stopped; but a person living out of London is quite in a different position; he has everything free to him.

148. Is not it the case that persons coming to London from the country are frequently stopped for a quarter of an hour by the crowding of the great thoroughfares?—Some of them.

149. Sir *J. Shelly.*] Would not an individual residing just within that boundary of 20 miles think it very hard if he were made to pay for these improved bridges, while a man living just beyond the boundary was free?—No doubt of it.

150. Mr. Alderman *Cubitt.*] Perhaps your opinion is that the area of 20 miles is too large?—I think it is.

151. What would be the proper area, in your opinion?—Of course everybody within the district would object to it; but I should say that 10 or 12 miles would be the outside.

152. Sir *J. Duke.*] Have you considered at all the means of affording relief to the traffic, as suggested by the last witness, by providing footways on the sides of the bridge?—It is a question rather for an architect than for me; but whatever the convenience might be, it would certainly diminish the beauty of the bridge.

153. Mr. *Jackson.*] You think it is a thing to be avoided if possible?—No doubt of it.

154. But you are of opinion that if more bridges are wanted, the present bridges should be thrown open to the public?—I think if the experiment I suggest should not answer, then you ought to revert to a new bridge. But it is not doubtful in my mind whether the approaches on the Southwark side of London Bridge may not be improved to a very great degree.

155. So as to render the building of a new bridge unnecessary?—Possibly.

156. What do you think of a new bridge from Charing-cross, as marked upon the plan before the Committee; suppose the present Suspension Bridge was made into a bridge for carriages, would not that be a great relief to the Strand and to the City?—Certainly it would be a great relief so far as it went.

157. Would not it give greater facility to the public in going to the West End than a bridge opposite St. Paul's Cathedral?—The question would be, whether the expense of creating a new bridge at that point would be worth incurring in order to avoid having to go over Waterloo Bridge.

158. But leaving the expense out of the question altogether, and looking at the convenience of the public, would not that be a more convenient place to have a bridge than any other?—More convenient for parties going westward.

159. It would be a great relief to the traffic coming from the Strand across the river?—It would, certainly.

160. Mr. Alderman *Challis.*] But Waterloo Bridge does not need to be relieved?—Only from the toll.

161. Sir *J. Shelley.*] Of course you are aware that there are shareholders of Waterloo

Waterloo Bridge?—Yes. I am, unfortunately, executor to one of the shareholders; the share is worth about 5 *l.*

162. Has it been a profitable concern?—Very unprofitable.

163. Do you think that the inhabitants of the metropolis would like to have a rate levied upon them in order to buy up this unmarketable speculation?—I do not think they would.

164. Mr. *Jackson.*] Not at any price?—I do not think at any price, unless it was a very small one.

165. Then you think that at some price they might be willing to have that done?—It must be the very smallest amount. The very principle of a new tax, no matter how small it is, is always multiplied in effect.

166. Mr. *Pellatt.*] I presume that you would not give them more than 30 years' purchase upon the present tolls?—I do not know.

167. Mr. *Jackson.*] Do you think that the proprietors would complain if they received 30 years' purchase upon the present dividends?—I think they ought not to complain. When we began our first negotiations about London Bridge, there was a great obstacle to the improvement in the shape of the London Bridge Waterworks. The secretary of the board told us that they would cost us something like 200,000 *l.*, but very fortunately the New River took the whole of them off our hands, and they did not cost the Corporation or the improvement one halfpenny.

168. *Chairman.*] You would suggest that the two toll-paying bridges should, as an experiment, first of all be thrown open free for one year?—Certainly; but I should like to see the whole of the tolls purchased, and to see them made free.

169. Mr. *Jackson.*] But you would try that as an experiment before you bought those two bridges, or before you built a new one?—Yes, I would.

170. *Chairman.*] Do you know how the proprietors feel upon that subject?—No; there are a great many different interests. There are the original proprietors, and there are the debenture holders. I am executor to an estate in which there is a 500 *l.* share, for which we have never had five farthings.

171. Mr. Alderman *Challis.*] Do those bridges require any considerable expense in being kept up?—I apprehend not.

172. Do you happen to know whether Southwark Bridge is in a very dilapidated condition?—No, I do not know that; I never heard it before; I should doubt it.

173. Mr. *Jackson.*] I suppose you are aware that it was at one time contemplated to take a railway across that bridge, and that a Bill was brought before this House for that purpose?—Yes; I think that is proof of its stability.

174. Mr. *Wilkinson.*] Does it appear to you that that road laid down upon the plan before the Committee, forming a straight line of road crossing all the bridge roads, would be necessary, whether any new bridges were made or not?—It would be very desirable, certainly.

175. But you think that the throwing open of those two bridges, toll-free, might render it unnecessary to build a new bridge?—It would add such a new feature that I think no person could calculate the effect of it.

176. Mr. Alderman *Cubitt.*] You consider that any new tax of any kind for the purpose of building a bridge, or opening a bridge, would be generally obnoxious?—Strongly objectionable.

177. Do you think that the continuance of the present coal tax for a few years longer would meet with less objection than the levying of a new rate?—Decidedly; especially if the circle within which the tax was levied was somewhat lessened.

178. Knowing what you know as to the continually increasing amount of the coal tax, are you of opinion that it would be possible to carry out what is required, with regard to new bridges and new streets, by continuing that tax for a not very distant period?—Yes, I think it would. I think the opposition to it would be only of such a character, that if there was a sincere desire on the part of Parliament to carry it into effect that opposition would be got rid of. I speak by experience, for there could not be a stronger opposition to it than there was to the Act of Parliament in 1828 and 1829, by which a million was raised on the security of the coal duties.

179. Mr. *Pellatt.*] How long did it take to collect that one million?—I think it was paid before 1852.

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180. Over how many years was it divided?—I think it extended from 1829 till near 1852, or less than that.

181. *Chairman.*] Are you acquainted with the condition of Blackfriars Bridge?—Only by notoriety, and from seeing it. It is in as bad a condition as can be.

182. Is it possible to repair it and make it sound?—I can hardly give an opinion upon that, but I should doubt it, after the repairs that have been made upon it some few years ago. Then it was given out that it would stand for ages, but those ages have been very short.

183. Does not that arise in a great measure from the construction of New London Bridge, which has altered the course of the river?—I think it ought not to arise from that, if it is so, because the calculation was made before London Bridge was built, and before Blackfriars Bridge was repaired. That eminent engineer, the late Mr. Rennie (his evidence was as strong and clear as possible), stated that the river would fall a great deal more and rise a great deal more; so that that calculation ought to have been made at the time that the bridge was repaired.

184. Have you any acquaintance with Vauxhall Bridge?—No, I have not, except that I am a small proprietor.

185. Does that pay a good dividend?—Not so good as it did. There was a great traffic over it to the South Western Railway, and before that was removed it used to pay a good dividend.

186. The throwing that bridge open would not be of any advantage in relieving the City traffic?—No, I do not think it would be of much, if any.

187. Is the traffic very considerable over that bridge?—Not very. It is chiefly local traffic.

188. Sir *J. Duke.*] I understood you to say that you had no other suggestion to make to the Committee, except taking off the tolls from Southwark Bridge and Waterloo Bridge?—Yes, as an experiment, to be tried first before doing anything else.

Martis, 21° *die Martii*, 1854.

MEMBERS PRESENT.

Mr. Oliveira.	Lord Alfred Hervey.
Sir James Duke.	Sir John Shelley.
Mr. Wilkinson.	Mr. Jackson.
Mr. Alderman Challis.	Mr. Pellatt.
Sir Benjamin Hall.	

LORD ALFRED HERVEY, IN THE CHAIR.

Edward Tyrrell, Esq., called in; and Examined.

E. Tyrrell, Esq.

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189. *Chairman.*] HAVE you a return which was asked for by the Committee?—I have a "Return of the Amounts annually received in respect of the Coal Duties since the 31st December 1831, distinguishing the produce of the several Duties of 8*d.*, 4*d.* and 1*d.*, with the respective application thereof," which I beg leave to hand in.—(*The same was delivered in.*)

Vide Appendix, No. 1.

190. Sir *B. Hall.*] The reference to the Committee is to this effect, to inquire and report whether it would be desirable to provide out of local funds the means of throwing open to the public the present toll-paying bridges, or to build new bridges, and if so, upon what terms such bridges could be thrown open; and the Committee are precluded from inquiring or giving an opinion as to whether it would be advisable to pay those expenses out of the public funds. Now, from your knowledge of the metropolis, do you think that any proposal to purchase and throw open the bridges by means of a forced tax upon the inhabitants for that purpose would be received favourably by the inhabitants?—So far

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far as I have been able to ascertain the feeling of the inhabitants, I should say that their feeling would be decidedly adverse to a tax for that purpose.

191. Mr. *Wilkinson.*] Or any purpose, I suppose?—I think an improvement tax would be very much objected to, from all that I have heard.

192. Sir *J. Shelley.*] Would it not be an objection, in the eyes of the public generally, that a tax should be levied upon the public for the purpose, as they would think, of buying up the shares of those who had entered into a bad speculation?—I should apprehend that if there was any idea of purchasing the shares of the bridges, it would be done upon an estimate of their present value.

193. Mr. Alderman *Challis.*] As the funds of those bridges are known to be in a depressed state, so as to make little or no return for the money expended in building them, would not the public probably feel more indisposed against paying money for purchasing such bridges than for building a new bridge?—I think they would do so; but it would depend a great deal upon the terms upon which it was proposed to buy those bridges.

194. Sir *J. Shelley.*] If an idea got abroad that a tax was to be imposed without the consent of the public, to buy up a bad speculation, would not that of itself, on the first blush of the thing, make it unpopular?—I think it would.

195. *Chairman.*] Do you think that the same objection would exist to a tax for the purpose of building a new bridge?— I think so; I have always found that the idea of a tax for a purpose of that nature very unpopular, and it would be very much more so if it were thrown over a small locality.

196. Mr. *Wilkinson.*] Are the Committee to understand you to say that supposing it to be ascertained that there is great want of bridge accommodation, and great inconvenience occasioned by the want of that accommodation, the inhabitants of London generally would, in your opinion, be averse to furnishing by taxation funds adequate to that purpose?—From all the conversation I have had upon that point, my impression is, that they would be unfavourable to such a tax.

197. Sir *J. Shelley.*] They would probably say that the whole population of the country are benefited by the improved circulation, facilities for traffic in London, and that there was in fact only one source out of which it ought to come, namely, the Consolidated Fund?—They would no doubt feel, as the truth actually is, that any great improvement in the metropolis is not only a benefit to the inhabitants of the metropolis, but to all the surrounding districts, to a very great extent.

198. Mr. *Wilkinson.*] Did you hear Mr. Laing give his evidence here?—I did.

199. You do not agree with Mr. Laing in his notions upon this subject?—I do not.

Ferdinand Brand, Esq., called in; and Examined.

Ferdinand Brand, Esq.

200. *Chairman.*] WHAT office do you hold in the City?—I am comptroller of the Bridge-house Estates.

201. What is the general nature of the Bridge-house Estates?—They consist of land, houses, wharves, warehouses, and other buildings, which are held by the mayor, and commonalty, and citizens of the City of London, in trust for the maintenance and support of London Bridge. They were derived originally from gifts and grants from the Crown, and gifts from different individuals, and purchases made out of the surplus income arising from those estates, and other portions have been purchased with the produce of property sold at different periods, under the authority of various Acts of Parliament for effecting public improvements and other purposes. There is a portion of the property situated at Stratford, in Essex, which is also liable to the support of two bridges there, called St. Michael's Bridge and Peg's Hole Bridge, and a portion of the roads adjoining.

202. Is the trust upon which the property is held confined to the repair of London Bridge?—The specific trust is confined to the maintenance and support of London Bridge.

203. Mr. Alderman *Challis.*] Are the funds devoted to those bridges at Stratford, and the funds devoted to the maintenance and support of London Bridge kept quite distinct?—No; the fund derived from the estate at Stratford is part of the fund held for the support of London Bridge; but the estate at Stratford is liable, in the first place, for the repair of those two bridges, and it is applied to London Bridge, subject to a prior trust for the others. The estate at Stratford is a

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portion of the Bridge-house Estates, and liable primarily to the support of those two bridges, and the surplus rents and profits go to the Bridge-house Estate generally.

204. What is the amount of this fund?—The whole rental of the Bridge-house Estates is about 32,000 *l.* a year.

205. *Chairman.*] What charges are there upon those estates?—By the Acts of Parliament passed in relation to the rebuilding of London Bridge, the residue of the rents and profits of the Bridge-house Estates, after payment of the existing charges on and defraying the expenses of managing and improving the estates, and the current charges and expenses of London Bridge, and the repairs thereof, and lighting and watching the same, and all other expenses relating thereto, are charged with the payment of the sums of money raised for the rebuilding of London Bridge, amounting in the whole to the sum of 431,000 *l.* The money was advanced by the Government, and the repayment is secured by annuities, terminating at different periods, amounting together to 21.550 *l.* per annum. Those terminable annuities will begin to expire in the year 1867, and the last of them will expire in 1871.

206. Sir *J. Shelley.*] You spoke of the expenses of "improving the estates;" what is meant by "improving"?—Moneys that are necessary for outlay in the course of the general management of a large estate. There are moneys constantly expended for the making of sewers and roads, and so forth, and the general expenses of managing and improving the estates. There are a great many expenses incurred on a large estate, such as this, in improving it, and making alterations, and things of that nature.

207. *Chairman.*] To what extent are the Bridge-house Estates liable for the repair of Blackfriars Bridge?—An Act of Parliament was passed in the year 1833, the 3d & 4th of William the Fourth, for raising a sum of money for the repair of Blackfriars Bridge. By this Act of Parliament it is directed, that so much of the expense which is incurred in pursuance of the Act of the 7th of George the Third, for the watching, lighting, cleansing, and repairing Blackfriars Bridge, as the fund created by that Act shall be insufficient to satisfy, shall be made up out of the surplus rents and profits of the Bridge-house Estates; that is, the surplus after paying the Government annuities; subject to that, the Bridge-house Estates are made liable to the repayment of the sums of money raised for the repair of Blackfriars Bridge and of the interest upon those moneys. The moneys raised for the repair of Blackfriars Bridge under the powers of that Act of Parliament were 77,400 *l.*, of which sum 73,100 *l.* still remains unpaid, and is a charge upon the Bridge-house Estates, the interest of which amounts to 2,967 *l.* 10 *s.* per annum. I have taken an average of the accounts for the last ten years from the 31st of December 1843 to the 31st of December 1853. I have taken 10 years because the paving of London Bridge and the paving of Blackfriars Bridge both come, upon the average, about every nine or ten years, and, by taking that period, it includes the charge of paving only once. The annual revenue of the Bridge-house Estates, upon the average of the last 10 years, has amounted to about 33,532 *l.* The payments in respect of rents, taxes, and other charges on and the expenses of managing and improving the estates, and the current charges and expenses of London Bridge and the repair thereof, and lighting and watching the same, and all other expenses relating thereto, upon an average of the last 10 years, amount to about 7,196 *l.* per annum. That leaves a surplus of 26,336 *l.*

208. Mr. Alderman *Challis.*] That includes all the payments made for the bridges at Stratford?—Yes; what is paid in respect of the bridges at Stratford comes under the 7,196 *l.*; that item gives the whole of the expenses deducted from the produce of the Bridge-house Estates. The amount of the surplus rents and profits applicable to the purposes of London Bridge and Blackfriars Bridge then becomes 26,336 *l.* The annuities payable in respect of the moneys raised for the rebuilding of London Bridge are 21,550 *l.*, leaving a surplus applicable to the purposes of the Act of Parliament relating to Blackfriars Bridge of about 4,786 *l.* The payments made in aid of the fund for lighting, watching, cleansing, and repairing Blackfriars Bridge, upon an average of the last 10 years, amount annually to about 1,632 *l.* The interest upon the money raised for the repair of Blackfriars Bridge amounts to 2,967 *l.* 10 *s.* per annum, making the total of the annual payments in respect of Blackfriars Bridge about 4,599 *l.*

4,599*l.* 10*s.* That leaves a surplus applicable to the repayment of the moneys raised for the repair of Blackfriars Bridge of 186*l.* 10*s.* per annum.

209. *Chairman.*] Is the charge of the Blackfriars Bridge loan payable in the shape of interest, or is it paid off by annuities?—It is a loan upon which interest is payable. It is not in the form of annuities, but money raised upon bonds charged with interest in the mean time, but ultimately to be paid off.

210. Sir *J. Shelley*] Have you any schedule showing the expenses of management and improvement of the Bridge-house Estates?—I have not with me the particulars of the accounts. I have been through the accounts myself, and have made out these averages for the information of the Committee.

211. Mr. *Jackson.*] Can you give the Committee those charges in detail for each year?—Yes.

212. Stating every expense under its own head?—Yes, certainly.

213. Will you be kind enough to do that?—Yes, I will.

214. Will you give us also a statement of the periods when the annuities will expire?—I have stated that the moneys were borrowed at different periods, commencing in 1827. They were annuities for 40 years, and therefore they will begin to fall off in 1867. The last sums were borrowed in 1831, and consequently they will all expire in 1871.

215. Then that debt will be extinguished?—Then that debt will be extinguished.

216. Mr. *Wilkinson.*] In the year 1871 there will be a net income of what amount?—A net income of 26,336*l.*, charged with the sums of money raised in respect to the repair of Blackfriars Bridge; that is, supposing there are no other sums of money required for the repair of Blackfriars Bridge, which is doubtful at the present moment. Looking at the present position of Blackfriars Bridge, it is very doubtful whether a large expenditure will not be requisite for the repair of that bridge.

217. Mr. Alderman *Challis.*] Have not the Committee of the Bridge-house Estates had an examination made of Blackfriars Bridge?—Yes.

218. Have you any report upon that, showing the present state of Blackfriars Bridge, and the probable expense of making it perfect where it is imperfect?—Yes; but I thought that the Committee would like perhaps to take the principal bridge first.

219. Is London Bridge in a perfect state?—Certainly.

220. Then as regards London Bridge, 7.000*l.* a year is as much as it is likely to require?—There is a plan at present under consideration for widening London Bridge. Some allusion was made to that by the Chairman of the Brighton Railway, at the first meeting of the Committee.

221. But the improvement of London Bridge, and the necessity of keeping the bridge up, are quite distinct questions?—Still, whatever may relate to London Bridge is primarily chargeable upon this fund before Blackfriars Bridge has any claim upon it.

222. But it is optional with the Court of Common Council, whether they will enlarge London Bridge or build a new one; but it is no matter of option, if the bridge needs repair to keep it up, whether they will repair it?—Certainly.

223. Mr. *Jackson.*] Do you consider that the Bridge-house Estates are so encumbered by the heavy debt incurred in rebuilding London Bridge as to prevent their affording any further funds for the repair of Blackfriars Bridge?—At the present moment I think they are. If the money market was in a different position to what it is at present, it is very probable that arrangements might be made for raising a sum of money enough to pay off the existing charges, if the Government were willing to accept it. Supposing the Government were willing to commute the annuities for a payment in present money, and the state of the money market were favourable to such an operation, then it is probable that a sum of money might be raised sufficient to pay off the Government, which would leave a surplus, after paying the Blackfriars debt due. But in the present state of the money market, I do not think that could be done.

224. More than half the time for which the annuities were granted has passed?—Yes; we are now in 1854; they began in 1827.

225. Therefore, if you consider the sum of 400,000*l.* to represent the amount of the original debt in 1827, it may be taken at less than 200,000*l.*; so that you would have a sufficient resource upon which to borrow more?—It would depend upon the rate of interest at which we were able to raise the money.

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226. Mr. Alderman *Challis.*] Have you any recent report of any survey made, showing the present condition of Blackfriars Bridge?—Yes; this is a report of Mr. James Walker upon the subject. The bridge has, within the last four years, shown symptoms of sinking. Under this Act of Parliament, to which I before referred, passed in 1833, upwards of 100,000 *l.* was laid out in the repair of Blackfriars Bridge; there was a considerable substantial repair of that bridge. Those works were completed in 1841. In 1850 some symptoms of sinking manifested themselves in one of the piers of Blackfriars Bridge, the fifth pier from the Middlesex side. Messrs. Walker and Burges were employed by the Bridge-house Estate Committee, to whom the care of the bridges is entrusted, to make a survey and examination of that bridge, and report their opinion as to the best mode of repairing it. Surveys were made, and different works from time to time were executed under the direction of Messrs. Walker and Burges. Rubble was thrown in to a considerable extent round the piers, to cure the defect that had arisen; and they did certain other works, such as repairing the piling which had broken away; and other works were carried on.

227. Can you state any resolution that the Bridge-house Committee have come to upon the subject, in consequence of the information derived from Mr. Walker?—Mr. Walker suggests three different plans; the resolution the Common Council came to was, that it would be desirable to rebuild Blackfriars Bridge altogether; that is upon reports made by Sir William Cubitt and Mr. Brunel, both of which I have here for the information of the Committee.

228. Can you hand in the report of Mr. Walker to the Bridge-house Committee?—This is the report from the Bridge-house Committee to the Court of Common Council, presented on the 1st of July 1852. This contains the reports of Messrs. Walker and Burges, and of Sir William Cubitt and Mr. Brunel. This report I will hand in.—(*The same was delivered in*).

229. Mr. *Wilkinson.*] That is the most recent report from Mr. Walker to the Bridge-house Committee?—Yes; there are several minor reports; Mr. Walker makes a report whenever there is any small repair to be done, but this is the most recent report with regard to any large alteration required to be made. The result of that report was a report from the Bridge-house Committee to the Court of Common Council, recommending that Blackfriars Bridge should be taken down, and that a new bridge should be built.

230. What was the resolution of the Court of Common Council?—I have not it here; but it was agreeing with the committee in their report, and referring it back to them to carry into execution.

231. Is it within your knowledge that there is a plan under the consideration of the Bridge-house Committee for widening London Bridge?—There is.

232. In what state of progress is that?—I have a model of it here, if the Committee desire to see it.—(*The Model was produced.*)

233. Mr. *Wilkinson.*] Is that widening of the bridge obtained by projection of the parapet?—It is an iron projection on the parapet, nine feet six inches on each side.

234. Did you hear Mr. Lambert Jones give his evidence upon this subject?—I did.

235. Do you agree with him?—I thought the Committee would form a better opinion by an inspection of the model, and therefore the model has been produced. Mr. Bunning, the architect, is here, and will be able to give the Committee full information upon the subject.

236. Mr. *Jackson.*] Are you in the habit of publishing yearly or half-yearly the accounts of the Bridge-house Estates?—Yearly.

237. Can you place before the Committee for the last 10 years your yearly expenditure and receipts in the shape in which you keep them in your books, and in which you present them to the Court of Common Council?—Yes, for the last 10 years.

238. You have not them here now?—No; but I have gone through them for the purpose of preparing the statement I have made.

239. Mr. Alderman *Challis.*] Have you any information to offer to the Committee connected with Southwark Bridge?—There has been a negotiation with the Southwark Bridge Company. The attention of the Corporation was some years ago directed to the question of the necessity or the propriety of throwing open Southwark Bridge; and a communication was made by the Bridge-house Committee to the Directors of the Southwark Bridge Company, with the view of ascertaining whether there was any probability of their being able to accomplish

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plish the purchase of the bridge, so as to be able to throw it open for the benefit of the public. A conference took place between the Directors of the Southwark Bridge Company and the Bridge-house Committee in 1849, at which the Southwark Bridge Company stated that the sum which they should require for the purchase of the bridge was 300,000 *l.* I have before me the Report of the Select Committee of the House of Commons on the Metropolitan Improvements in 1836, which probably will give the Committee information upon the subject. It contains a Return of the amount of capital raised, and the expenditure, and the amount of the dividends of the Southwark Bridge Company. The Bridge-house Committee of course considered that the amount of income received by the Southwark Bridge Company should form some sort of basis upon which to calculate the amount to be paid for the bridge; and the Directors were asked whether they would be kind enough to state that; but they declined stating any basis, except that they had been offered 300,000 *l.* by the North Kent Railway Company for the purchase of the bridge, when it was proposed to bring that railway into the City over Southwark Bridge, and that the Railway Company had agreed to give them that price for it, provided the Act passed. The Act did not pass, and therefore that agreement fell to the ground; but they considered that they having been offered that sum, that was the amount which they were entitled to expect to receive for the purchase of the bridge. That was reported to the Court of Common Council, and the Common Council did not deem it expedient to continue the treaty at that time. In 1853 the negotiation with the Southwark Bridge Company was renewed, in consequence of the deliberations of the Bridge-house Committee with respect to another bridge. On that occasion, Mr. Stephenson, the engineer, was consulted; and he threw out a suggestion of the propriety of purchasing Southwark Bridge, and throwing it open. The negotiation was then renewed with the Directors of the Southwark Bridge Company, under the expectation that they were disposed to take a less sum; but upon a further conference, the Directors of the Company still adhered to the price of 300,000 *l.*, and stated that there was no disposition on their part to take any less sum. In fact, it was intimated to the Bridge-house Committee, that unless that sum was immediately given, in all probability a larger sum would be asked. There seemed to be an impression amongst the directors that the bridge must be purchased for the benefit of the public, and that they would therefore have a chance of getting their own price.

240. Have you, by an examination of the Reports of the Company, ascertained what the income really derived from this bridge is?—I have. I find that the average annual amount of the net dividends of the Southwark Bridge Company, for the 14 years ending 1848, is about 2,270 *l.* I have no means of going lower than 1848. Now, supposing you take that at 30 years' purchase, it would be 68,000 *l.*; taking it at 40 years' purchase, it would be 91,000 *l.*

241. Instead of 300,000 *l.*, which the Directors ask?—Yes. The preference shareholders are the only persons who receive any income whatever. The preference shareholders have a right to 7½ per cent.; and until the 7½ per cent. is paid to the preference shareholders, the other shareholders do not get anything.

242. *Chairman.*] Do you know whether the tolls of the Southwark Bridge are increasing or decreasing?—They appear to fluctuate a good deal. They are rather decreasing than increasing; but I think probably they may now increase, as the City has been opening New Cannon-street.

243. Mr. Alderman *Challis.*] In the negotiations which have taken place between the Bridge-house Committee and the Directors of the Southwark Bridge Company, has any proposition been made to them to rent it of them, and to open it to the public free for one year?—They were asked whether they would let it for a term of years; but they declined positively to enter into any treaty upon that subject. But no proposition has been made to them to open it for one year. The Bridge-house Committee have considered that there would be extreme difficulty in that.

244. One of the witnesses who was examined on a previous day, Mr. Jones, suggested that such a plan would be as much for the good of the company as for that of the public, inasmuch as by opening it in that way they would ascertain what amount of traffic would be likely to go over it, and to what extent it would save the necessity of building a new bridge?—It would be difficult to ascertain, in such a case, who should make good any repairs or dilapidations at the end of the year.

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245. Might not that easily be ascertained by seeing what the amount of the repairs had been for the last two or three years?—There has been no proposition made upon that subject.

246. Has the Bridge-house Committee had any report from any surveyors as to the state of that bridge?—Not at present. The Southwark Bridge Company, in their last negotiation with the committee, stated that it had been examined within the last six months by Mr. George Rennie, who had reported to them that it was in a perfectly sound condition.

247. Sir *B. Hall.*] Are the Committee to understand that all negotiations between the Corporation of the City of London and the Proprietors of the Southwark Bridge are at an end?—No, I do not apprehend that they are at an end at present.

248. Are they still pending?—They are still pending; but I should state that the Committee are not entering into those negotiations under any idea that they are to pay the whole cost of that bridge. They have no funds applicable to the purpose.

249. With what view are they negotiating?—They are negotiating rather with a view to the public. My impression is, that the City consider Southwark Bridge not as a mere civic bridge, but as a national concern; and that if it is purchased for the benefit of the public, the country at large should pay a portion of the expense of the bridge.

250. Then they are negotiating with the hope of obtaining a sum of money out of the Government funds to enable them, with the aid of any funds of their own that may be applicable to that purpose, to acquire that bridge?—That is my impression; that supposing they could come to an agreement with the Southwark Bridge Company, upon terms which they would think fair, they would then go to the Government and say, "Now we have ascertained that this bridge can be obtained at such a sum, it is very desirable for the public that it should be purchased; we are willing to contribute so much; what will you recommend to be contributed out of the public funds?"

251. Mr. Alderman *Challis*] What other information have you to lay before the Committee?—I have a plan of the steam-boat landing, that was referred to by Mr. Laing, at London Bridge. Mr. Laing was under a misapprehension as to the opening that was proposed to be made under London Bridge. He seemed to think that there is no communication upon the Surrey side of the river similar to that upon the London side. But that is a mistake; there is an archway under Wellington-street, in the same way as there is in Thames-street, so that persons can go under at the present moment if they choose, but they must come up the steps again.

252. What is the other plan you have?—The other is a plan with reference to a bridge which was proposed to be erected in the neighbourhood of St. Paul's, which was under the consideration of the Corporation.

253. Mr. *Wilkinson.*] Was not Mr. Bennoch the projector of that bridge?—Yes; it has been marked for the convenience of the Committee upon Mr. Wyld's Plan of London, which will give the Committee an idea of the point where it was proposed to construct that bridge—(*The Witness produced the Plan, and pointed out the proposed line.*) That is the line of the proposed new bridge from the corner of the Old 'Change; it is a little to the westward of New Cannon-street; it strikes off at the corner of Old 'Change down to the Thames; it goes down at a right-angle, and crosses over the Thames. It touches the Thames at Trig-lane; then it crosses over to Bankside, nearly opposite to what were the Phœnix Gas-works; and it is proposed to bring it out to Union-street. The road marked blue upon the plan shows a desirable extension (but not a necessary part of the plan) into the Southwark Bridge-road. The part shown in dark red from each bank of the river is intended to represent the land arches upon which the bridge is to be constructed before it comes to a level.

254. The banks are very steep here?—Yes.

255. What is the green line?—It is a proposed new street, to be carried from New Cannon-street, down to Earl-street, Blackfriars, to relieve the traffic.

256. Mr. Alderman *Challis.*] Is that plan now under consideration?—That plan is under consideration at present.

257. Mr. *Wilkinson.*] Can you tell what the Corporation have done with respect to this matter?—This matter was taken into consideration by the Committee,

mittee, and very carefully gone into by the Bridge-house Committee; Mr. Bennoch attended them several times upon it, and was heard upon the subject.

258. Sir *B. Hall.*] When was that?—In 1852 and 1853. The Committee went to view the site, and looked at it on all sides, and took great pains to ascertain whether it was a good plan, and the Committee were of opinion that the bridge would be desirable, provided funds could be obtained for the purpose.

259. How did that plan come before the Bridge-house Committee?—It came by reference from the Court of Common Council; Mr. Bennoch brought it before the Court of Common Council. It was referred by the Court of Common Council to the Bridge-house Committee, and the Committee referred it to Mr. Stephenson, the engineer, and to the City architect, to consider the plan. I have Mr. Stephenson's report here, with the architect's report; Mr. Stephenson in his report says, "It is impossible to look into the whole case narrowly without feeling that the comparatively unused Southwark Bridge might be made available, and perhaps for a great length of time supersede the necessity of the proposed project." And that was what caused the Corporation to renew the negotiation with the Southwark Bridge Company.

260. Mr. Alderman *Challis.*] Was any estimate ever given of the expense of the proposed new bridge?—Mr. Bennoch gave an estimate before the Committee. Mr. Bennoch's estimate for the bridge was 120,000 *l.*, and for the approaches 24,000 *l.*; making a total of 144,000 *l.* That included the works only, without anything for the purchase of the property, or the clearing of the ground.

261. Have the Bridge-house Committee endeavoured to ascertain what the purchase of the property would cost?—They have not, because they reported first to the Court of Common Council to get their sanction as to the principle of it. In consequence of this recommendation of Mr. Stephenson in his report, they thought it right to renew the negotiation with the Southwark Bridge Company before they came to any absolute conclusion upon this plan. I will deliver in this report.—(*The same was delivered in.*)

262. *Chairman.*] Then nothing has been done upon it since?—Nothing has been done upon it since this report, which was in 1853.

263. Mr. Alderman *Challis.*] But without something like a report of the estimate of what the property will come to that will be required for the purchase, the Bridge-house Committee are not in a situation to judge whether it would be desirable to buy that bridge or to build another?—Certainly not; but they first wished to ascertain whether the Corporation of London would entertain the principle of a new bridge upon that spot; whether they would think it better to purchase the Southwark Bridge. It was useless to go to a heavy expense in making surveys of the property till that question was decided.

264. Mr. *Wilkinson.*] In either case the Corporation contemplated not the furnishing of the whole funds themselves, but they should derive some part of the funds necessary for the purpose from the general funds of the country?—Certainly; they have no funds of their own applicable to the purpose. They looked first to the Bridge-house Estates; but the Bridge-house Estates could not be diverted from the trusts relating to London Bridge and Blackfriars Bridge without the sanction of Parliament, and therefore they looked to see whether there was any chance of getting anything there; but the Bridge-house Estates being so deeply mortgaged, there seemed to be little chance of obtaining any sufficient amount from that source. They considered that out of their own resources they were not called upon to pay the whole expense of buying any existing bridge, or of building a new bridge.

265. *Chairman.*] But they are willing to pay their portion of the expense?—Yes, and a liberal portion.

266. Do you think there would be any great objection to raising the rest by local taxation?—I think a rate would be exceedingly objectionable to the inhabitants of the city of London. I think the feeling of the Common Council is, that the inhabitants of the City of London would not willingly submit to a rate in the shape of an improvement rate.

267. If it were limited to the City of London?—I think the inhabitants of the metropolis generally would feel the same repugnance. I think there would be a repugnance on all hands to anything in the shape of a direct tax for the purpose of improvement.

268. Supposing that by a local rate either Southwark Bridge could be thrown open, or a new bridge built, do you think it would give any material assistance

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to the traffic of London Bridge; do you think it would divert much traffic from London Bridge?—It would divert some traffic; but unless it were accompanied by a new street, it would not relieve it to any great extent, as far as the railway traffic is concerned, because the approaches of Southwark Bridge go so far off before they come to a level. The committee have not lost sight of the difficulties of the approaches to Southwark Bridge; the committee have had that in their minds; and they consider that, in addition to the purchase-money for the bridge, a considerable sum must be expended to make the bridge available by altering the approaches.

269. Mr. Alderman *Challis.*] Do you know the width of Queen-street at the Cheapside end?—I do not know the exact width; it is very narrow.

270. And the property is very valuable?—It is. When I am speaking of the approaches to Southwark Bridge, I do not contemplate the widening of Queen-street. I am looking only to the removal of the acclivities from Thames-street, and from Pott's Vinegar-yard on to the bridge.

271. But in going from Cheapside, as it is now, to Southwark Bridge, you would be constantly liable to be blockaded?—It is my own opinion that it would be so, certainly.

272. Mr. *Wilkinson.*] When you speak of a new street, you mean a street from east to west, on the south side of the Thames?—Yes.

273. Something like that on the plan before the Committee?—Yes; because when you get on to Southwark Bridge, you have so far to go before you come to the level, that it wastes too much time to make that bridge at present available to those going, for example, to the railway terminus.

274. *Chairman.*] Are any further proceedings going to be taken with respect to the plan for a new bridge, now that the negotiations have failed for purchasing Southwark Bridge?—We do not consider at present that the negotiations are entirely broken off with the Southwark Bridge Company. The negotiation is still pending. I hold in my hand a book which may give some information to the Committee. Here is a report made by the engineer to the Commissioners of Sewers, which contains a Table, showing the traffic upon certain days in the year 1850, at various hours in the course of the day.—(*The same was delivered in.*)

Vide Appendix, No. 2.

James Bunning, Esq., called in; and Examined.

J. Bunning, Esq.

275. *Chairman.*] YOU are Architect to the Corporation of London?—Yes.

276. Did you prepare the model for the widening of London Bridge, which is now before the Committee?—I did.

277. How long ago was that?—I have had it in my mind for five or six years, but owing to the immense mass of business I have had to attend to for the Corporation, I have postponed it till it appeared to me that the traffic had increased to such an extent, that I thought no more time should be lost.

278. When was this produced before the Corporation?—About April of last year.

279. Of course you examined the state of the bridge?—Yes. The design was made with the intention of projecting the parapets over the sides of the bridge, and constructing the footways by means of iron cantalivers, bolted down to the voussoirs of the bridge. Of course, the traffic for foot passengers does not require so stable a construction as that for the carriage-way; and by this system, the entire solid part of the bridge would be thrown up for the carriage traffic. The parapet is intended to be of wrought iron, and the cantalivers of cast iron, and will be painted to agree with the stonework of the bridge, so that as little as possible of the architecture of the bridge should be destroyed. Feeling a good deal of delicacy in altering Sir John Rennie's work, I suggested to the Bridge-house Committee that he should be consulted. They kindly agreed to that; and not only did they think it necessary that Sir John should be consulted about the architectural effect, but that he should also be satisfied that it was not intended to put a greater weight upon the bridge than it could bear, for there has been a settlement in the bridge. The Committee not only sanctioned Sir John Rennie being employed, but they coupled with him Mr. Page. Those two gentlemen I had the pleasure of meeting. Soundings are now being taken, and I have no doubt that in the course of a week or ten days, a report will be made by those gentlemen.

280. Who is Mr. Page?—Engineer to the Board of Works.

281. Mr.

281. Mr. Alderman *Challis.*] What is the extent of the addition proposed to be given?—A pathway of nine feet six inches, or ten feet, on each side.

282. Mr. *Wilkinson.*] About the same width as the present footway?—Yes. This centre line or division, which the Committee see upon the model along the middle of the bridge, was an idea that I had for facilitating the traffic. It struck me, that if the vehicles passing north and those going south were divided into two separate lines, it would increase the facility greatly.

283. Mr. Alderman *Challis.*] I suppose you would rather refer us to the report from those gentlemen as to the probable amount of the expense?—The estimate I made was about 30,000 *l.*; but the rise of material has been exceedingly great since then. I should think 20 per cent., and that it would cost now 36,000 *l.*

284. Mr. *Wilkinson.*] That includes the new road?—Yes.

285. You have made provision for people crossing?—Yes.

286. The new roadway would be of a width corresponding with the width of the present roadway and pathways together?—Yes; affording room for six lines of carriages, three on each side.

287. Mr. *Jackson.*] What will be the increase in the width of the roadway, independently of the footpaths?—The roadway will be very nearly 50 feet.

288. What is it now?—About 30 feet.

289. Then that will be an increase of 20 feet in the roadway, and there will still be nine feet six inches on each side for foot passengers?—Yes.

290. Mr. *Williams.*] Has the settlement which you have spoken of in the bridge taken place lately?—No; that had taken place before my attention was particularly called to the bridge.

291. Mr. *Jackson.*] Would this addition be carried out in granite the same as the rest of the bridge?—No; entirely of iron.

292. Mr. *Wilkinson.*] You would not as an architect think it any disfigurement?—It does not improve the bridge I am free to admit. But the question is, whether, circumstanced as London Bridge is, utility is to give place to architectural effect, or whether appearance and beauty is to give place to utility. I should certainly prefer the bridge remaining as it is in an architectural point of view; in fact, that was one point upon which I was exceedingly desirous that Sir John Rennie should be consulted, that if he had any objection to make to the Committee he should be at liberty to do so; because I think it very wrong to interfere with gentlemen's works without consulting them.

293. *Chairman.*] You do not apprehend any increase of weight in consequence of this alteration?—My idea is, that we should rather lessen the pressure than otherwise, because there are some very heavy granite parapets, which we shall remove.

294. Mr. *Wilkinson.*] Quite as heavy as your iron work?—More so.

295. Do Sir John Rennie and Mr. Page concur in your opinion?—At the present moment Sir John Rennie and Mr. Page are confining themselves to the soundings of the river. Sir John Rennie certainly did not appear to like the scheme at all. What his report will be to the Committee I do not know.

296. Mr. Alderman *Challis.*] And this would not interfere in any way with the traffic by water?—Not at all.

297. Has your attention been called to a suggestion which has been made for making a passage through the end of the bridge on the south side, so that persons coming by the steam-boats might be able to pass from one side of the bridge to the other without crossing the main line of traffic?—I have heard of that suggestion.

298. *Chairman.*] Do you know anything of that plan?—There is no difficulty in its being executed.

299. Mr. Alderman *Challis.*] Would not the widening of the bridge render it unnecessary?—No; the design is quite a distinct thing altogether, to enable a person instead of crossing over the bridge to pass through it.

300. *Chairman.*] Who is that plan projected by?—I think it originated with Mr. Dawson.

301. Sir *B. Hall.*] You consider that if the plan for widening the bridge, as set forth upon this model, were carried out, it would materially facilitate the traffic over the bridge?—I consider so, certainly.

302. Sir *J. Duke.*] In fact, you consider some such plan absolutely necessary?—I do, unless there is some other way to get across the river.

 303. *Chairman.*]

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303. *Chairman.*] Do you know when this report is expected from the engineers, that you have referred to?—I am expecting it in a week or ten days; it may be a month.

Francis Bennoch, Esq., called in; and Examined.

F. Bennoch, Esq.

304. *Chairman.*] I BELIEVE you are the projector of the plan which has been referred to by Mr. Brand, for a bridge across the Thames from St. Paul's?—I am.

305. Have you made any calculation what will be the expense of it?—I have. When I first undertook to examine the question, I felt it to be my duty not only to have the ground properly surveyed on both sides of the river, but also to go to the expense of having a design for a bridge made, and the quantities taken out, and an estimate made by contractors prepared to undertake the work at the price given in.

306. What did the estimate amount to?—I felt it of great importance that the Corporation should undertake the duty of surveying the property, and estimating the amount of compensation that should be given to the occupiers and proprietors of land over which the bridge and approaches must necessarily go; that, therefore, I considered was no part of the duty which I should impose upon myself, especially as the expense would be considerable, perhaps rather too much for a private individual to bear, merely for the purpose of proving a public necessity.

307. Mr. *Wilkinson.*] I believe you are an amateur in the matter?—Yes.

308. You only calculated the expense of the actual bridge?—Yes, the expense of the actual bridge, and the approaches to that bridge from the level on the City side to the level again on the Surrey side. The estimate at that time was 120,000*l.* for the construction of the bridge, and 24,000*l.* more for the approaches on both sides of the bridge from level to level, making a total of 144,000*l.* Of course, I need hardly say that since that time materials, as well as labour, have risen considerably, and if an estimate were to be given now, it would be probably 20 to 25 per cent. higher than it was then.

309. Mr. Alderman *Challis.*] What was the width of this proposed bridge?—Sixty feet.

310. Sir *J. Duke.*] How is that as compared with the present London Bridge?—Six feet wider than the present London Bridge; but I am of opinion now, that instead of being 60 feet it would be a wise economy to have it 80 or 90 feet wide, almost to have two bridges in one, because the traffic at this point would immediately be immense.

311. *Chairman.*] What is the bridge to be built of?—It was proposed that the piers should be stone with wrought-iron girders.

312. Do you consider that a bridge could be built at that part of the river cheaper than anywhere else?—My impression is, much cheaper, because the property from St. Paul's Churchyard to the river side is property of comparatively little value; the streets are narrow, contracted, and ill adapted to great commercial operations; so that warehousemen who require a considerable amount of room for their waggons, avoid them. When you come to Thames-street the property is necessarily very valuable, because of the number of wharves in that immediate neighbourhood; but it singularly enough happens, that just at that particular point the property is of less consideration than any other property that could be touched upon between the Temple and the Tower; this happens to be an iron wharf, where plain sheds are required to protect it from moisture and corrosion, and this could be done much better by the dry arches of a bridge on girders carried upon columns, and would form altogether a much better wharf than the owners now have. Then, on the Surrey side, I think it would be almost impossible for the imagination to conceive a condition of society more fearful than that of the population through which the approach would go on that side from the point at which it touches the bank, till it reaches the junction of the Southwark Bridge-road, near the Elephant and Castle; it is impossible for language to describe the condition in which the people are there, not living, but festering.

313. Mr. Alderman *Challis.*] You mean that it would be a great improvement to clear that neighbourhood away for the purpose of making an approach to the bridge?—

bridge?—Yes, it would be as great an advantage, in a sanitary point of view, as the construction of the bridge would be to the traffic. This line happens to come between two great thoroughfares, Blackman-street on the one side, and Blackfriars Bridge-road on the other side, and there is no other main street running through this district excepting the crooked approach to Southwark Bridge. The people have got crowded together; and the alterations made in other parts have driven the poor into this particular locality in great numbers. I think it would be an excellent plan to take advantage of such an opening to construct a large series of dwellings for the poor in that particular locality, where they are needed, near the river side, and sufficiently near their work to enable them to go to and fro without much fatigue or loss of time.

314. Does not the amount you have stated, viz. 144,000*l.* strike you as remarkably small for the bridge and the approaches?—That is for the actual works; that has nothing to do with compensation for the property that would be taken. I thought it better that the corporation should judge of that; but I thought it was a very small sum; I was much astonished at it, and I think I may as well mention the names of the gentlemen whom I consulted. In the first place I consulted with Sir Charles Fox; I was with him three or four times with reference to a structure of this kind; we devoted many hours to the consideration of the subject. He recommended to me a gentleman who had been engaged for many years in constructing and designing such works, and who is now at Copenhagen, carrying out the works under Sir Charles Fox, in connexion with that gigantic railway. I thought it was better to have a man whose character and scientific reputation were unquestionable, than to have a man whose standing might be doubtful; I got him to make a survey of the ground and a design for a bridge; his name is Brounger. He had frequently been employed by engineers in designing bridges. He had the assistance of a gentleman who, I believe, is now engaged in constructing the Crystal Palace, and one of the best judges in England with regard to constructions of iron, and the two together made the estimate. I therefore felt perfectly safe in their hands, and I have since that period had a bridge designed by engineers of equal eminence, Messrs. Liddell and Gordon, and they were prepared to construct the bridge and the whole of the approaches for 100,000*l.*, which seemed to me to be a very small sum.

315. Sixty feet wide?—Yes. Of course I did not bring that before the corporation formally, although I named it incidentally, because they had already before them an estimate which was considered as ridiculously low; and I considered that it was of no use to bring before them a still lower estimate, which would only, perhaps, still more excite their disbelief. I have had many designs and suggestions from people desirous of bringing their plans before the public. My attention has been directed to one of the most gigantic kind, which for elaboration, beauty, and adaptability, not only to the present necessities, but to all that may hereafter be required, surpasses every structure hitherto conceived; and I am told it can be executed for much less than the Corporation believe would be required for an ordinary bridge. The scheme to which I refer is this: I believe that the Government have some notion of bringing the railways into connexion with the Post-office, and if that be considered necessary for postal communication with the North of England, it is of course infinitely more required with regard to the Continental postal arrangements, and that could be effected more easily from the southern than from the northern side. A railway is projected to come to the southern side of the river, and by a bridge at this particular point, with arrangements for a railway underneath, through which the mail-trains might pass and enter a tunnel as soon as it reached the City side of the river, and come up to the Post-office, where the bags could without labour or loss of time be deposited. That has been provided for in connexion with the bridge to which I refer. And perhaps the Committee may think it important for them to hear something from the gentleman who has designed this magnificent structure; it is one of the grandest designs that ever was conceived.

316. Mr. *Wilkinson*.] What is the name of the gentleman?—The name of the designer is Mr. Sang.

317. You spoke just now of the population of the neighbourhood through which the approach to your bridge will pass on the Surrey side. They are of course a labouring population?—They are a labouring population engaged in that

particular locality. There are a considerable number of slaughter-houses about there; and the trades incidental to that necessary occupation are not of the pleasantest, or perhaps of the most healthy character; such as bone-boiling, gut-twisting, and a variety of other matters exceedingly odorous, but by no means salubrious.

318. And being a labouring population, they are drawn to that spot in order to be near the scene of their operations?—Undoubtedly; a great number of people engaged along the river side are compelled to live in that locality, not only for convenience, but in consequence of the cheapness of lodgings.

319. Therefore it would be an exceedingly good site for the purpose of erecting improved dwellings for the working classes?—Certainly.

320. *Chairman.*] Is not that the case all along the Thames on the Surrey side?—I think almost all the bone-grinding places and gut-twisting places are confined to that particular locality, for there the slaughter-houses are fixed to a large extent. Now that necessity, in the course of a twelvemonth, will in all probability be done away with; because I apprehend it is arranged by the Corporation that on opening the new market the slaughter-houses will be contiguous to it, and cattle will not be driven to other localities for the purpose of being slaughtered.

321. Sir *J. Duke.*] Would your bridge interfere with New Cannon-street?—It would not at all interfere with it; that street would form, necessarily, one of its approaches. New Cannon-street comes into St. Paul's Churchyard at the south-east corner of the Cathedral; the street should spring from Watling-street, if the new bridge is to be constructed; and one must be constructed in the course of time, since, as I shall be able to prove, more bridges are really required, and that is, perhaps, of all positions, about the best that could be chosen for the erection of our first new bridge. Starting from Watling-street, and crossing New Cannon-street, you have about 50 or 60 yards to Old Fish-street, and that would be the point from which the new bridge would take its rise upon the dry arches, and be continued at a dead level till it reached the Surrey side of the river. I have laid it down here, upon the Map of London (*producing the same*). I think the Committee would do well to take notice of this particular point. There is a new street projected here to go to Earl-street, Blackfriars, in order to give relief to Ludgate-hill. The only object of this new street from this point at Bow-lane to Earl-street is to relieve Ludgate-hill of the traffic of this quarter that desires to cross the river. Here there is a large amount of expenditure proposed, merely for the purpose of accommodating the traffic from this point to Blackfriars Bridge. Now, my opinion is that Blackfriars Bridge is not sufficient, but that a new bridge must be made somewhere, and without loss of time. These new approaches to Blackfriars by Earl-street would cost at least from 180,000*l.* to 200,000*l.* I have no hesitation in saying that more than half the new bridge and its approaches could be constructed for the cost of this one new street; then you get, not only a new line for traffic over the water, but you avoid taking the expensive property, which the Earl-street extension would cross diagonally.

322. Mr. Alderman *Challis.*] But you are of course aware that this new street is proposed to be constructed for the purpose of taking off the traffic which comes over Blackfriars Bridge?—Yes; but it so happens that the Blackfriars Bridge is probably the worst position for a bridge that there is in the metropolis. They have chosen the lowest part on each side of the river as the place from which the bridge should spring. Now seven-eighths of all the traffic over Blackfriars Bridge comes from a high level, so that both on the Temple Bar side and on the St. Paul's side of the valley of the Fleet they are obliged to descend a hill to get down to the point from which the bridge springs. Then they must ascend a hill to get over the water, and Blackfriars Bridge hill is nearly as bad as Holborn-hill. Any waggon coming from any part of Southwark south of Blackfriars Road would never come over Blackfriars Bridge, but over the new bridge, and would save the double hill. I have here a table showing how the traffic arranges itself. I have gone into the question with reference to this improvement. I had men employed in taking the traffic there a fortnight ago, and the statement shows the traffic of vehicles passing from Ludgate-hill over Blackfriars Bridge, and *vice versâ*, and from Earl-street over Blackfriars Bridge, and *vice versâ*, from 9 a. m. to 6 p. m., on Wednesday, February 8th, 1854. The Ludgate-hill portion

tion of the traffic going over Blackfriars to and from the Old Bailey is as follows:—Islington and Kennington omnibuses, 128; all other vehicles, 985; making a total of 1,113. The vehicles that go over Blackfriars Bridge to and from St. Paul's Churchyard are, 29 South Western Railway and City omnibuses, and 405 of other vehicles; making 434. The vehicles going along Earl-street are, cabs, 83; all other vehicles, 502. Presuming that those 83 cabs have probably come from St. Paul's Churchyard down to Earl-street to avoid Ludgate-hill, I have therefore added them to the 434 vehicles to and from St. Paul's Churchyard; making a total of 517. Thus we have 517 vehicles going down Ludgate-hill to pass over Blackfriars Bridge, while we have 1,113 going along the Old Bailey, and so over the bridge. The other vehicles, to the number of 502, consist of waggons, &c., which do not come from or go to the upper level towards Cheapside, except in rare instances, and therefore cannot enter into any calculation with reference to the new street. So that this new street, if constructed, would only accommodate 517 vehicles during the day; and if you suppose that they would go at the rate of three miles an hour, it would leave each vehicle in this distance 88 yards apart, instead of crowding upon each other as they do at present in Ludgate-hill. An omnibus starting from the Post-office to go to Kennington would be at the Elephant and Castle before it at present gets to Blackfriars Bridge, in consequence of the perpetual crowd and crush at various corners. Blackfriars Bridge will never be good for much until rebuilt. When brought down to a 20 feet headway it may become a good bridge. There is a scheme afloat to adapt the river to the bridges by artificial dams, instead of adapting the bridges to the river. How this is to be done may perhaps be gathered from witnesses versed in City affairs. Now, in considering the best way to relieve the traffic in the street, of course the first question is in reference to the bridges. In fact, it was noticing the crowding of the bridges that first led me to devote my time to considering the question how we should best relieve the traffic of the streets. I find that the traffic in the streets increases very rapidly, perhaps in a proportion that we can hardly believe; but taking the calculation for four years, I find that the traffic over London Bridge increases year by year from 5 to 7½ per cent.

323. *Chairman.*] For how long a period is that?—I have taken it for four years. I consider that it has increased in four years 30 per cent. at least. If we take Southwark Bridge as about the centre of the City at the present moment, halfway between London Bridge and Blackfriars, and if a line be drawn from north to south, I find that you have all that enormous population lying south and east of the Elephant and Castle and the Clapham-road, which must come over London Bridge. And you have all that enormous population lying north-east of the Thames, east of Goswell-road and the Angel, Islington, embracing the district of Finsbury, the Tower Hamlets as far as Limehouse and Stepney, and the whole of Hackney, Hoxton, Clapton, and Tottenham; and the waggons along the Docks have no other means of getting across to Rotherhithe or the railways on the other side than by London Bridge. Take, for instance, Mr. Torr, the animal charcoal-burner in Rotherhithe. He supplies the sugar refiners on the Middlesex side with charcoal with which to refine their sugar; he employs some 40 or 50 horses; I believe he has 10 waggons constantly employed; they are obliged to traverse three miles on the Surrey side, and three-and-a-half or four miles on the Middlesex side, to carry material from one place to another, which are not a mile apart if they had a direct communication across the river. Now I estimate, taking the population on both sides, that London Bridge supplies a population of at least a million; that is to say, a million of people requiring bridge accommodation have only London Bridge to give them that accommodation.

324. Mr. *Wilkinson.*] That is half the population of London?—Nearly, not quite. The whole population of London is about 2,400,000. Now, I find that in 1801, when the population was only 958,000, there were three bridges. In 1811 the population was 1,138,000, but we had no addition to the number of bridges. In 1821 the population was 1,378,000, and we had two additional bridges completed, which were found to be essential, making five in all. In 1831 we had one bridge widened; still we had only five bridges, although the population had risen to 1,654,000; the bridge widened being New London Bridge, which was opened in that year. In 1851 there was another bridge added, the Hungerford foot-bridge; making six bridges in all. But at the last

census the population was 2,361,640, and yet we have no more bridge accommodation than we had when the population was 800,000 less. However rapidly the population has increased since the last bridge was opened, it has been trifling when compared with the increase of waggons, carts, carriages, cabs, and omnibuses, the latter being unknown before 1828, demanding wider streets, and more bridges.

325. Sir *B. Hall.*] In each case you take the same area?—I take the same area in each case.

326. *Chairman.*] Have not the tolls been taken off some of the bridges?—No; there has been no toll taken off or changed since that period. The toll was taken off Blackfriars Bridge, I believe, some time during the last century. Taking the population in 1821, and supposing that the population at that period demanded two new bridges, and got two new bridges, it would then give about 250,000 as the number of the population to be supplied by one bridge. If that be taken as the proper mode of ascertaining the necessity for bridge accommodation, we ought at the present moment, in London, instead of five bridges, to have at least 10 bridges to accommodate the public. One of the reasons why the streets are so crowded in the city is, that almost all our leading thoroughfares converge at London Bridge. We have a large quantity of traffic from the west going to the South Eastern Railway, and a large quantity of traffic from the north going over the water, and they prefer the high level of London Bridge to the low level of Blackfriars; so that from all that area, between Goswell-street, round by Hackney and Limehouse, come up to London Bridge; and there is a tremendous crush in Fenchurch-street; on the other side of the river we have them coming from Rotherhithe, and Bermondsey, and Greenwich, and Camberwell, and Clapham, and Wandsworth, all crowding to London Bridge. Now the question is, how to get rid of this traffic that is every day increasing. I think it would fall within the scope of the inquiry of this Committee to see what is done in other great cities; for instance, in New York, over the East River, and over the North River, which is four miles wide, there is a continual supply of steam ferry-boats, starting every five minutes, sufficiently large to convey 10 waggons and 1,000 men, if required. If we had something of that kind at the river-side, say, for example, about the lower part of the Tower, and crossing over to Dockhead, we would have a continual traffic across, and relieve London Bridge of nearly one-eighth of its present traffic.

327. Mr. Alderman *Challis.*] Would it not very much interfere with the traffic up and down the river?—Not in the least.

328. Sir *B. Hall.*] In the cases to which you refer, in New York, is any toll levied?—There is a very light charge.

329. Are those ferries at New York private speculations?—Some of them are private, and some open; where the city claims the river-side, they let the ferries to parties who are disposed to take them, and permit a small toll to be levied.

330. Sir *J. Duke.*] When you consider the number of barges coming up the Pool during a flood tide, do you think it would be possible to navigate a steamboat across the river at such a time?—There would be some difficulty, but that would not be insurmountable. There might be a guiding chain underneath, to enable them to go very nearly in a straight line. There is always plenty of opportunity for crossing.

331. Mr. *Wilkinson.*] It would be like the Chain-bridge at Portsmouth?—Similar to that, but much simpler.

332. Sir *B. Hall.*] Do you know whether any such scheme has ever been suggested in the metropolis?—I believe that, in consequence of my suggesting this incidentally when I proposed the new bridge to the Corporation, several companies were talked of, but none seem to have been matured.

333. *Chairman.*] As regards the site of the proposed new bridge, are you convinced that the one which you have proposed is the best site that could be fixed upon?—I have no affection for any particular site; but in my opinion, looking at the whole matter, taking the condition of the traffic and the manner in which it leads to particular points, a bridge at that place would relieve London Bridge in all probability of one-fourth of the actual traffic from the Surrey side of the river. I think that half the omnibuses from Clapham and Brixton, and Camberwell, instead of finding their way round by London Bridge, would come straight to St. Paul's, or to the Post-office, because they would be at the

Post-office

Post-office before they could be at the Monument, and persons going near St. Paul's would save nearly a mile every day. I believe it would take one-fourth of the north-east traffic off Blackfriars Bridge.

334. As regards the present traffic to the railway over London Bridge, would it affect that?—Of course, if you took off a quarter of the traffic over London Bridge, that would add one-fourth to the facility of going to the railway.

335. By having the new bridge at St. Paul's, would you not oblige everybody who used that bridge in going from the railways to the West End to go through St. Paul's Churchyard and Fleet-street, and the Strand?—The bridge I am proposing is not so much for the accommodation of people going to the railway, as for the local traffic of the metropolis. It must be observed that, at present, we have no street that runs direct south and north. Now, it will be observed by the plan laid upon this map, that if this line were opened, we should have for the first time a street from Islington through the City to Clapham Common, without unnecessarily diverging from the one point to the other. If a person desires to go from the Elephant and Castle to St. Paul's at present, he is obliged to go a great way round, unless he comes over Southwark Bridge, which is nearly as crooked; and on the City side of Southwark Bridge the gradient is as steep as Holborn-hill, which has been a nuisance from time immemorial.

336. Sir *J. Duke.*] Might not that be remedied by an arch?—I believe it cannot be remedied conveniently now. Mr. Brand has told the Committee that the value put upon Southwark Bridge is 300,000 *l.*; I may add, that before you can make the approaches available, there will be a necessary expenditure of 150,000 *l.* in addition, making 450,000 *l.*; for this reason Queen-street is under 50 feet wide, and if you were to have a viaduct, you have not room without destroying the premises on the one side or the other, which would be an enormous expense. It is a misfortune that when the property was taken down a few years ago, the opportunity was not taken to make it sufficiently wide for a good approach to the bridge. Then, the upper part of Queen-street is only some 21 or 24 feet wide; and when you get to Cheapside, there you have a dead lock. Southwark Bridge itself being only 42 feet wide, you can never have more than three carriages abreast.

337. *Chairman.*] Then you differ in opinion from Mr. Stephenson, who stated in his Report that it would be better to enter into a fresh negotiation with the Southwark Bridge Company before making any plan for a new bridge?—I think it is a very proper thing that this bridge should be free, and that all bridges should be free; but it becomes a question for the City what is the cheapest for them to adopt. If it is to cost 300,000*l.*, and 150,000*l.* for the approaches, that is 450,000*l.* for a bridge only 42 feet wide; and if you can get one 60 feet wide for a sum not larger, I think there can be no question with reference to which is the best. Besides, if you add to the cost of Southwark Bridge the cost of the new approach to Blackfriars, you have 200,000*l.* more, making an aggregate expense of 650,000*l.*, and I have offered to construct a new bridge, including every expense, for 500,000*l.*

338. Mr. *Wilkinson.*] Your belief is, that the bridge which you propose may be executed for 500,000*l.*, including the approaches?—I was prepared to offer securities to construct the whole affair, in a way that should be satisfactory to the City and to the Government, for 500,000 *l.*

339. Including the whole of the approaches and the whole cost of the land?—Including the whole of the approaches and the whole of the land from St. Paul's Churchyard to the level of Union-street. The corporation are very anxious, I believe, to carry out this improvement. Their only difficulty is money.

340. *Chairman.*] How much did London Bridge cost?—London Bridge cost, removing the Old Bridge, 35,600*l.*; building the New Bridge, 680,232*l.*; and the approaches, 1,840,436*l.*; making together, 2,566,268*l.* I am desirous of mentioning to the Committee two or three points with respect to the necessity for more bridges. Any man who comes over London Bridge, as I do, twice a day, must be satisfied that we want at least two bridges to relieve the traffic; there is quite enough traffic there for two bridges. I have here a table of the traffic, taken by 24 men, whom I employed on all the bridges of London on one day last year. I find, with reference to foot passengers, that between nine o'clock in the morning and six at night, over London Bridge there were 63,080. Over Southwark Bridge, 1,357; over Blackfriars Bridge, 30,089. Over Waterloo Bridge, 6,234; and over Westminster Bridge, 26,170; making a total over those four bridges, South-

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wark, Blackfriars, Waterloo, and Westminster, of 63,850. Now, over London Bridge we have within a fraction the same number; viz. 63,080. So that, in one day, there are within 800 as many foot passengers going over London Bridge as over all the other bridges put together. As to the equestrian traffic, of which also I have a return, I need make no mention, as no man in his senses would go on horseback over London Bridge. Then, taking vehicles, we have over Southwark Bridge, 307; over Blackfriars Bridge, 4,359; over Waterloo Bridge, 1,709; and over Westminster Bridge, 5,840; so that over those four bridges we have a total of 12,215, and over London Bridge it is 11,498. So that, with regard to vehicles, we have very nearly as many going over London Bridge as over all the rest of the bridges put together.

341. Sir *B. Hall.*] Can you state at what hour of the day the numbers were the largest?—Yes, I have them all, hour by hour. You will find at the hours at which people are rushing into the City a great increase over London Bridge and Blackfriars Bridge, and then in the middle of the day there is an increase over Westminster Bridge; I suppose people going to enjoy themselves at the West End; but in the morning there is a great rush to the City. In fact, three-fourths of all the people going over the bridges in the morning, find in the City the centre of attraction. These facts and figures are, I think, unanswerable, and form a very strong argument in favour of further bridge accommodation. I will hand in these tables.

[*The same were delivered in, and are as follows:*]

TABLES showing the Traffic of the Bridges.

Pedestrian Traffic.

BRIDGES.	Ten.	Eleven.	Twelve.	One.	Two.	Three.	Four.	Five.	Six.	Total.
London - -	8,175	7,374	6,885	6,707	6,195	6,180	6,651	7,773	7,140	63,080
Southwark - -	139	175	209	165	130	160	130	119	130	1,357
Blackfriars -	4,099	2,989	2,925	3,259	3,143	3,830	3,296	3,434	3,114	30,089
Waterloo - -	681	683	689	616	610	636	705	817	797	6,234
Westminster -	2,640	2,700	2,880	2,980	2,460	2,460	3,160	2,900	3,990	26,170
	7,559	6,547	6,703	7,020	6,343	7,086	7,291	7,270	8,031	63,850

Equestrian Traffic.

BRIDGES.	Ten.	Eleven.	Twelve.	One.	Two.	Three.	Four.	Five.	Six.	Total.
London - -	5	15	10	12	13	7	11	25	16	114
Southwark -	21	16	13	4	- -	9	1	11	18	93
Blackfriars -	8	9	9	9	5	10	17	14	10	91
Waterloo - -	5	1	6	1	4	2	3	3	10	35
Westminster -	15	35	34	44	26	47	21	34	41	297
	49	61	62	58	35	68	42	62	79	516

Vehicular

VEHICULAR TRAFFIC.

BRIDGES.	Ten.	Eleven.	Twelve.	One.	Two.	Three.	Four.	Five.	Six.	TOTAL.
London - -	1,311	1,248	1,373	1,288	1,185	1,092	1,265	1,426	1,310	11,498
Southwark - -	35	38	33	34	25	30	38	42	32	307
Blackfriars -	338	430	615	550	490	410	444	510	572	4,359
Waterloo - -	119	183	203	200	164	205	188	260	187	1,709
Westminster -	490	650	680	640	560	650	660	790	720	5,840
	982	1,301	1,531	1,424	1,239	1,295	1,330	1,602	1,511	12,215

A question was asked in the House of Commons last summer with a view to ascertain the decision of the Government with respect to the rebuilding of Westminster Bridge, which was answered by Sir William Molesworth, the Chief Commissioner of Works, to the effect, that after mature deliberation it was determined to rebuild Westminster Bridge on its present site, but that considering the vast increase of the population, and having due regard to the public convenience, additional bridges were required, and he intimated that one was projected to be built at Charing Cross, and another at Lambeth. This prompt and explicit reply suggested to me the propriety of accurately ascertaining the proportionate traffic of the various bridges, and the result was the Table which I have just given. If the new bridge at Westminster, which will be fully as wide as the New London Bridge, is held to be unequal to the traffic of the district, and that two additional bridges are demanded, I conceived that I would ill perform my duty if I did not take means to learn how such an argument would apply to London Bridge, and whether it would support or destroy the argument in favour of an additional bridge within the City boundary. I therefore arranged to have a number of men stationed on the several bridges to take an accurate account of the traffic between the hours of nine o'clock in the morning and six o'clock in the evening. Now if the Chief Commissioner of Works is correct in his opinion that the traffic of Westminster Bridge and the convenience of the public demand two additional bridges in that neighbourhood, on comparing the traffic of Westminster Bridge with that of London Bridge, it will be seen that London Bridge has double the amount of traffic, and therefore ought to have four additional bridges to make it equal with Westminster.

342. Sir *J. Shelley.*] But would not the Charing Cross Bridge, which Sir William Molesworth spoke of, relieve some of the other bridges, because it would take a great deal of traffic from the Strand?—If you look at the map of London, and calculate the number of people who desire to go to different localities, you will find that my argument is a pretty strong one. But I have other arguments; I think it important to know what other people require under similar circumstances. When I was in Paris, I took pains to ascertain the exact amount of bridge accommodation there; I find that they have in fact 10 times more bridge accommodation in Paris, a pleasure-taking city, than we have in London, where there is a large amount of business conducted.

343. *Chairman.*] The river is not quite so wide as the Thames?—No, it is not.

344. Mr. Alderman *Challis.*] Is it not the fact, that on some of the bridges at Paris there are not half a dozen people going over in a day?—Perhaps not; but I think the principal manufacturing city in France comes nearer the point, because we find there, as in London, a large population upon one side of the river, and another large population upon the other side of the river; at Lyons,

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I find that in five miles there are 12 bridges over the Saone, and in three miles and a half, seven over the Rhone, making 19 altogether. At Lyons the population is only 350,000, or about one-seventh of ours; and if population be taken as the criterion for the number of bridges required to place London on a level with Lyons in that respect, there ought to be 132 instead of seven bridges over the Thames. But let us ascertain what is done in a commercial city at home. Through the kindness of Mr. Alexander Hastie, the Member for Glasgow, I got yesterday a return of the bridge accommodation at Glasgow; they have opened two bridges within a very short time; they opened one last year, and they are now setting to work to get another, in order to have sufficient accommodation; there we find an example worthy of being imitated.

345. Sir. *J. Shelley.*] How are those bridges paid for?—By money borrowed upon the tolls, to a certain extent; but there is now a movement to have them entirely free. The parties on either side of the river are to pay a small rate, and it is proposed to keep them free in perpetuity. At Glasgow, I find that the Clyde is 400 feet wide; the population of Glasgow is 300,000 on the one side, and 85,000 on the other side of the river; together, 385,000. They have three stone bridges, and a suspension foot bridge; two of the stone bridges are 60 feet wide each, and the other 40 feet wide. Now, if three bridges are required for 385,000 people in Glasgow, then for London, with a population of 2,400,000, we ought to have at least 18 bridges, to have the same amount of accommodation for the public.

346. *Chairman.*] Do you know at what distance the bridges are apart, at Glasgow?—The whole four are within half a mile; it is not quite half a mile from the lowest to the highest. While in Glasgow they have four bridges within a space of half a mile, in London we have only five within two miles; to equal Glasgow in that respect, London should have 12 bridges. It is important to know that our streets are much crowded in consequence of waggons creeping along the river side instead of getting across the river at the most convenient point. In Glasgow the aggregate width of the bridge accommodation is 160 feet; in London, from Westminster Bridge to London Bridge, we have only 220 feet of bridge accommodation. In Glasgow there is one foot of bridge accommodation for every 2,380 persons; in London we have only one foot for 11,363; in other words, the population of Glasgow enjoys five times the amount of bridge accommodation provided for the people of London. London Bridge provides accommodation for at least 1,000,000, which, being only 54 feet wide, gives only one foot for 18,000 persons designed to be accommodated by that particular bridge; so that, whether you take it as regards population, or as regards traffic, with reference to the bridge accommodation enjoyed by other cities and towns, London is the worst accommodated of any city in Europe. I have here a table, which is not to be found anywhere else, that I am aware of. I had considerable difficulty in obtaining the facts, which are gathered from various sources. It is a Table showing proportions, costs, and other particulars relating to the several bridges; it gives you the length and width of the bridge, the height of the headway, the number of arches, the span of the centre, when began, when finished, the waterway, the material, the name of the architect, the cost of the bridge, the cost of the approaches, the total cost, and the gradients on each side.

[*The same was delivered in, and is as follows:*]

TABLE

TABLE showing the Proportions, Cost, and other Particulars relating to the several Bridges.

NAME.	Length.	Width.	Height above High Water.	Arches.	Span of Centre.	Begun.	Finished.	Waterway.	Material.	Architect.	Cost of Bridge.	Cost of Approaches.	Total.	Gradients, Surrey Side.
	Feet.	*Feet*	*Feet.*		*Feet.*			*Feet.*			£.	£.	£.	*In 100 Ft.*
London -	920	54	29½	5	150	1824	1831	690	Granite - -	J. Rennie	Removing Old Bridge, 35,600 680,232	1,840,436	2,566,268	4·
Southwark -	700	42	29½	3	240	1814	1819	660	Iron - - -	J. Rennie	- - -	- -	800,000	3·3 City side, 4·6
Blackfriars -	995	42	27½	9	100	1710	1769	793	Portland Stone -	R. Mylne	- - -	- -	210,000	3·10
Waterloo -	1,326	43	27½	9	120	1811	1817	1,080	Cornish Granite -	J. Rennie	- - -	- -	1,000,000	3·0
Westminster	1,220	40	25	15	76	1739	1750	820	Portland Stone -	Labeyle -	- - -	- -	388,700	3·9
		221						4,043						
Proposed, St. Paul's -	-	60	27½	5	240	-	-	960	Iron - -	- -	141,000	-	-	2·6

Average Width of Waterway, 800 feet.

347. Have you any account of what the bridges cost at Glasgow?—I have. According to Mr. Hastie's information, one of the stone bridges cost 42,000*l.*, another cost 36,000*l.*, and the third cost 28,000*l.* I have not the cost of the Suspension Bridge, because it is a private speculation.

348. Sir *J. Shelley.*] Is there any account of the expense of the approaches to those bridges?—Judging from the map of Glasgow, which came to me from another source this morning, it seems that the river trust of Glasgow have acted very judiciously. They have taken care to have proper embankments of the Clyde, with a sufficient area to allow of almost any amount of traffic between the river side and the houses, so that the bridges come on to the quay, and must save an enormous expense with regard to approaches. I hope that something of a similar kind will before long be effected in London.

349. Mr. *Wilkinson.*] What is the difference between the width of the Clyde at Glasgow, and the width of the Thames at London?—It is about one-half. I find that the average waterway of the five bridges in London is 800 feet, and in the Clyde it is a fraction over 400 feet.

350. Can you state whether they are all supported by tolls?—I will state the information I have obtained. I put questions to Mr. Hastie, and he has answered them in this way, "How was the cost met? By money borrowed on security of the tolls.—Are they all free? None are at present free." At present there is an agitation, I believe, for the purpose of making them all free. "If not, what pontage is levied? Two-pence for each cart of goods, and 1*d.* for coals, 2*d.* for each cab with one horse, 4*d.* for the carriages with two horses."

351. Sir *J. Duke.*] Have you turned your attention to the question how the expense of the proposed new bridge could be met?—I have; and I think that we have got some information to-day that may somewhat relieve us from the difficulty in that respect, because, from the evidence given by Mr. Brand it appears that the Bridge-house Committee have now at their command about 230,000*l.* They have borrowed 431,000*l.*, and rather more than one-half the time of the annuities has expired, and that amount might be considered a very fair contribution for the City of London.

352. Mr. Alderman *Challis.*] Do you think that a rate upon the inhabitants of London would be acceptable, or would be unpopular?—No tax is acceptable; everybody would rather that anybody else paid it than himself. But I believe, from a great number of inquiries which I have made, that not only would there be no objection to a tax of the kind, but that it would be borne cheerfully, and it would be a very just tax. But it should not be levied merely upon the inhabitants of the metropolis. I hold that Middlesex and a large portion of Kent are as deeply interested in the question of bridges as are the inhabitants of

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the metropolis. People who grow vegetables and fruits of all kinds for consumption in London, ought to be taxed just as legitimately as people who live in the metropolis. The people who have articles to sell, and come there to sell their produce, have as good a right to pay the tax as the people living in London who buy the produce.

353. Sir *B. Hall.*] What body is there in existence at present that you think ought to levy the tax, and to manage the proceeds of it?—I do not think that you have any body in existence at present that could be trusted with the levying of this tax; I think it would be very proper to have in London, as they have in Glasgow, a river trust, which, if I am rightly informed, is composed partly of gentlemen and merchants, who use the river; a certain portion of the corporation form another part of the trust, and other persons appointed by the counties form another part; the whole being 24 persons in number; they form the river trust, to whom the management of the banks of the river, and the bridges, and everything of that kind is entrusted. Now, something of that sort might be done in London; the Corporation of the City of London, and the counties of Surrey, Kent and Middlesex, might each delegate a certain number of members to form a certain trust; a bridge commission, for the express purpose of conducting these matters, and be vested with powers to levy a rate upon the population which they represented, or, if we have before long the whole metropolis divided into corporations, as has been elsewhere suggested, the thing would be easier done.

354. Mr. *Pellatt.*] You have stated that the expense of the approaches is included in your estimate for the new bridge; to what extent does the approach go on the Surrey side?—To the level of Union-street; in other words, a little further than the line marked horizontally on that map of Mr. Pennethorne's. As part of my scheme, I suggest that a street should be carried straight to the Elephant and Castle. My belief is, that properly managed, the property so taken, being comparatively valueless at present, would increase so largely in value, that the ground-rent would, to a large extent, pay for the compensation given for the land.

355. Is the plan before the Committee at all according to your views?—I think it is an exceedingly good plan. A wide street on the south side of the river, from Westminster to London bridge, into which all lateral traffic would fall, if made wide enough, 70 feet at least, could not fail to be of immense advantage.

356. Mr. *Wilkinson.*] In fact, you think that no plan for bridge accommodation would be complete without a new road passing along the Surrey side?—I think that is an exceedingly good plan for accommodating the traffic to the railways; but it would be still better if the South Western Railway were to come to the point of the new bridge, opposite St. Pauls, and if the South Eastern should have a branch to the same point for the accommodation of persons seeking that quarter of the city, and still more for the economy and convenience of our continental and colonial postage. By such an arrangement the mail train might start an hour earlier every night, and the distance between London and Paris be shortened by an hour.

Martis, 9° die Maii, 1854.

MEMBERS PRESENT.

Mr. Oliveira.	Sir John Shelley.
Lord Robert Grosvenor.	Mr. Alderman Cubitt.
Mr. Wilkinson.	Mr. Alderman Challis.
Mr. Pellatt.	Mr. Locke.
Lord Alfred Hervey.	

BENJAMIN OLIVEIRA, Esq., IN THE CHAIR.

James Walker, Esq., called in; and Examined.

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357. *Chairman.*] YOU are a Civil Engineer, I believe?—I am.

358. You have been president of the Institution of Civil Engineers?—I was president of the Institution of Civil Engineers for ten years; I succeeded Mr. Telford in that situation, and I was elected for the 11th year, but I declined to serve longer.

359. You

359. You have been employed by the Admiralty and Treasury?—Yes, and I am now very frequently employed by them.

360. And have, of course, great experience in everything connected with the building of bridges?—I have had a great deal to do with them, and have now.

361. Mr. *Pellatt.*] You are consulting engineer to the Navigation Committee of the Port of London?—I consider myself to be so; I believe that in everything with regard to which they want the opinion of a consulting engineer, they apply to me.

362. *Chairman.*] Will you be so kind as to name the bridges you are connected with, or have been engaged in?—The nearest bridge to this House that I have built is Vauxhall Bridge, and the highest bridge that I and my partner, Mr. Burges, have designed, is a bridge over the Wear above Sunderland, which is now in the line of the Great Northern Railway, and which, I believe, is about the highest stone bridge in the kingdom. The centre arch of it is 160 feet span, which, I believe, with one exception, is the largest stone arch in Great Britain. The adjoining arch is 144, and there are two arches of 100 feet. The credit of the design is more due to my partner, Mr. Burges, than to me; it is borrowed from a Spanish bridge, the bridge of Alcantara. The most recent bridge that I have had to do with, is one over the Clyde at Glasgow; before that bridge I have had to do with a great many other bridges, which I can enumerate; but as my experience is pretty well known on these matters, perhaps I need not mention any further details.

363. Will you inform the Committee whether you have directed your attention at all to any spot as a proper site for a new bridge in the metropolis?—I have considered the matter generally, not only from having had so much to do with the River Thames, and the bridges upon it, having been employed in almost all of them, but also from having been requested by the Chairman of this Committee to do so. At the same time, as I had no order from the Committee which I was entitled to call a professional order, of course I have not gone into it with that particularity which would justify me in saying that my opinion is a professional one, to the same extent as if I had made special surveys.

364. Do you think that for the present traffic of the metropolis the existing bridges are insufficient?—That is my decided opinion; when I say that I refer to the free bridges only.

365. You refer to London Bridge, Blackfriars Bridge, and Westminster Bridge?—Yes.

366. How do you suggest to remedy that evil?—I think the immediate remedy is to make those bridges that are now toll-paying bridges free; my reason for saying so is this, that the collective width of road of all the *free* bridges over the River Thames is 138 feet; London Bridge being 53½ feet, Blackfriars Bridge 42, and Westminster Bridge 42½ feet. And that if a reference be had to the capabilities of the present bridges, and also to the alterations that are about to take place in them, the collective width of thoroughfare might be increased 150 per cent. of its present amount; that in place of 138 feet we might have 323 feet.

367. How do you get that result?—London Bridge is 53½, Southwark Bridge 42, Blackfriars, if widened, which is hypothetical, I have supposed to be 70; Waterloo, 42; Westminster, when widened, as contracted for, 80; and Vauxhall 36, making all together 323 feet.

368. You think that the adding that increased width in the various bridges would greatly facilitate the traffic?—There can be no doubt of it.

369. Sufficient for the present time?—I do not know whether that will be sufficient for the present demand; experience would test this.

370. You think decidedly that before more bridges be built over the Thames, which causes not only a heavy expenditure, but also to some extent from the piles, an impediment to the navigation, the accommodation that could be afforded by the united width of all the bridges ought to be tried?—Yes, that is my decided opinion; and whereas, as you are aware, to build new bridges would not only be a work of great expense, but also a work of time, the remedy that will be afforded by making all the present bridges free would be immediate, for although it will take some time to rebuild Westminster Bridge, and widen it, and to alter Blackfriars Bridge, the others, viz., Southwark, Waterloo, and Vauxhall, could be opened at once.

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371. Taking those at their present width, and converting the others, now toll-paying bridges, companies' bridges, into free bridges, would you get at least double the present accommodation?—Yes, nearly double, without any widening of the present bridges.

372. A very important question arises from your suggestion, as to how the money necessary to effect these alterations, and to purchase those bridges, which are now liable to toll, is to be raised?—As to Westminster Bridge, from what source the money is to be raised is not a matter for my inquiry, but that I presume is understood Blackfriars Bridge is in such a state that no doubt something will be done to it. The other bridges are built, and it would be undoubtedly to the interest of the companies to sell those bridges at a much less price than that for which new bridges could be built, and at a much less price than the bridges cost in building, for two reasons; one is, that their present revenue would be a guide or datum to start from, by which I apprehend they would be paid, although I do not think the question ought to be confined to the present revenue. Another reason is, that the sum which the party purchasing would be likely to pay would be very much less, without doubt, than the building of new bridges would cost. Again, if it should be resolved to build new bridges, and to make those bridges free, it is very evident that the value of the present companies' bridges would, to the companies, be amazingly reduced. Looking, therefore, either to the interest of the companies, or to the public interest, I say again, that before new bridges are built it would be desirable to take means to make all the present bridges toll free.

373. How then would you propose to raise the money to purchase them; do you think that people in the vicinity of these bridges all throughout the metropolis would bear a rate for such an accommodation?—No individuals or parties will bear rates if they can avoid them; but if new bridges were built to give the same accommodation that the present companies' bridges give, they would cost a great deal of money; the money must come from some source, and a less sum of money coming from the same source would purchase the present bridges. I am myself interested in that respect, as I am a considerable proprietor in most of the bridges; in Vauxhall and Waterloo, and to a small extent in Southwark, and should be very glad to have all risk and doubt as to value taken off my hands by parties willing to pay me a fair and liberal price. Again, I think that if a small tax were paid upon property within a certain radius of the centre of London, the amount would be so small as to be a matter of comparatively little importance to the rate-payers, who again would save it in another way, because those who cross the River Thames by those bridges, in place of paying tolls would pay the whole off by a rate; and moreover, every article which passes over those bridges, and is consumed by the inhabitants of London, now contributes of course, though in a very small degree, to pay the present tolls, because the price of the articles they consume includes the expense of the tolls. I suppose that, as to Blackfriars Bridge, which is a City bridge entirely, the Corporation would bear the expense of improving it; but I cannot say as to that, it is not my department.

374. Is not that remark also applicable to Southwark Bridge; is not that within the City limits, and would not it therefore be a charge upon the Corporation?—It is within the City limits, and if the Corporation were bound at their own expense to build a new bridge to compete with Southwark Bridge, the one being free and the other a toll bridge, I should say, as a matter of economy, that the City had very much better buy Southwark Bridge, and make it toll free.

375. Have you made any calculation as to the amount of rate that would be necessary to carry out your scheme, and also as to the area over which that rate should extend?—I have said before, that taking the centre of London at St. Paul's, I think that the rate should extend over an area of 10 or 20 miles radius, and I have added that I think that the amount to be paid would be very small for each individual; but I should say again, that I do not pretend to give an opinion as to where the money is to come from for building new bridges or buying old ones; I know, however, that it is not likely that any private companies will be induced to build two or three new bridges, as the present bridges are losing concerns, with the exception, perhaps, of Vauxhall. The Committee are, perhaps, aware that Vauxhall Bridge was built out of the remains of what was intended to be a very expensive bridge, and therefore I am not quite sure that it

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is remunerative; but speaking of the actual cost only, this bridge does pay. It pays very well just now, and that is a proof to me, that if the bridge were open to the public the thoroughfare of Vauxhall Bridge would be very great.

376. You suggest an area of 10 or 20 miles; if you extend the area of taxation to 10 miles, I apprehend that all the bridges within the 10 miles would be liable to redemption?—Without doubt they would apply for it; I have thought that if you wish to give immediate relief to the public, the companies would consent to let the bridges be open at once, say for a year, in order to give the authorities (the City or the counties or the Government) opportunity of seeing, before they purchased them, what relief that measure would give to the present over-crowded traffic upon the other bridges.

377. You would, in fact, let them free altogether, to try an experiment?—Just so; obliging myself to sell them afterwards, if the Government or the City, or any other parties desired to have them.

378. Mr. Alderman *Challis.*] When you say that you would let the bridges be opened, you do not mean that you have any power over those bridges, but merely that it is your opinion that the companies ought to do so?—I said before that I was a proprietor in the three companies' bridges.

379. As a proprietor merely, you have no power to influence the directors, or the body of shareholders; are you not aware that an application has been made to some of the bridges for the purpose of urging them to do this, in order to ascertain the future benefits of opening the bridges, and they have absolutely refused to do so?—If so, I think they are wrong, but I don't know the particulars. There is this to be said; if either the public on the one side, or the proprietors of the bridges on the other side, were blind enough to their own interests not to see, and adopt that proposition, that is, supposing my opinion to be correct, you have through Parliament the power of making both do what is proper, and certainly the proprietors of those bridges, if the matter were looked at fairly, would see that it was to their interest to sell their bridges for very much less than new bridges will cost; and on the other hand it would, perhaps, be cruel also on the part of the public to erect new free bridges which would render their bridges worth nothing.

380. *Chairman.*] Do you think that in this neighbourhood it would be desirable to have a new bridge; I do not say at what particular spot; somewhere between Westminster Bridge and Waterloo Bridge, since the space between these two being far too large, and the Suspension Bridge being only for foot passengers, cannot be considered?—I think of all positions, the one which has been named in the question is the most desirable for a new bridge. My notion about it would be to come near or even through Northumberland House and open into Trafalgar-square; that seems to me a very fine opening, although I cannot tell what His Grace the Duke of Northumberland would say to the project. There is a greater distance of the river between Waterloo and Westminster Bridge, without a bridge, than anywhere else lower down; there is a mile between Waterloo Bridge and Westminster Bridge, and none of the other intervals are so great; the distance is three quarters of a mile by water and one mile by the Strand.

381. Mr. Alderman *Challis.*] Do you know anything about the stability of Southwark Bridge?—I do not know excepting from report; it is the only bridge, with the exception of Waterloo, in which I have not been engaged professionally. I have been told that Sir George Rennie has been consulted, and has reported favourably as to its stability.

382. Have you had any conversation with any one who understood the matter, with regard to what it would cost to make the approaches to that bridge convenient for the public?—I should think that the approaches, although not of the best, are by no means bad now, particularly for light traffic. The City has the street superintendence, and, as I think, with great credit to themselves, have opened Cannon-street, and Cannon-street communicating with St. Paul's Churchyard, will give very great facility to the communication over Southwark Bridge; I may say that the opening of Cannon-street is one of the finest improvements that has been made of late years in the City, and I think Southwark Bridge falls very well into it.

383. *Chairman.*] Have you seen the plan suggested by a witness who was examined at the last meeting of the Committee, namely, Mr. Bennoch, for constructing a bridge near St. Paul's?—I have not.

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384. Lord *A. Hervey.*] Have you ever made any calculation as to what would be the expense of buying up the bridges?—No, I have not. It would be very easy for me to calculate what I think the parties might reasonably expect, but I have not made any calculation. Speaking as a shareholder, I may say that I hope the companies will not be blind enough to their own interests to refuse a reasonable offer.

385. Mr. Alderman *Challis.*] Do you know what the Southwark Bridge Company ask for their bridge?—I have heard that they ask 300,000 *l.* for it, and that it cost 700,000 *l.*

386. What is your estimate of the value of it?—I have made no estimate of its value, nor can I.

387. Can you not estimate what it produces at the present moment, and what it would produce as a free bridge; I think those estimates would enable the Committee to form an opinion as to its value?—I presume that to consider only what they make of it now would be rather a narrow way of looking at it, because I apprehend that as the population of London increases, so the toll over Southwark Bridge will increase. I do not know how the fact stands, but I apprehend that the toll has rather tended to increase of late years; what I say is, that as the company have made a bad bargain in building a bridge, they ought to be treated liberally. They have made a fine bridge, on the plans and under the direction of the late Mr. Rennie.

388. Mr. *Wilkinson.*] You said, that if other bridges should be rendered necessary, you thought that the value of Southwark Bridge and other toll-paying bridges would be very much deteriorated by their erection?—No doubt.

389. Therefore, seeing there is a necessity for bridge accommodation, there is sure to be a deterioration in the value of these toll-paying bridges?—Yes, if new free bridges be built.

390. If the toll-paying bridges should be insufficient, after all, would it not be better to build first, and buy afterwards?—Without doubt, to build the new bridges first, and buy afterwards, would be the way of reducing very much the value of the present bridges; but I, as a shareholder, should cry out against that; and I should say again that it would be rather hard upon me to oblige me to sell my bridges upon such reduced terms. It would look rather like an act of revenge upon what, I presume, might be considered the exorbitance of the present directors.

391. I dare say you have heard that one of the projected railway companies had agreed to give the sum of 300,000 *l.* for Southwark Bridge?—I have not heard that.

392. Mr. Alderman *Challis.*] With regard to any comparison which might be instituted between the Thames and the Seine, as has been done in this room, with respect to the number of bridges that there are in comparison over the Seine and the Thames, is not there a great difference in the navigation of the two rivers?—Yes.

393. Between the two is there not this difference, that it is less obnoxious to navigation to put bridges over the Seine than over the Thames?—Yes; the Seine is a very different river to the Thames, as regards navigation, but I may mention that the width of bridges over the Clyde, in the City of Glasgow, one of which is just finished, is greater than that of free bridges over the River Thames at present, which must show how very inadequate the present free communication over the River Thames is.

394. Lord *R. Grosvenor.*] Do you think that any great amount of traffic is deterred from going over the bridge at Vauxhall by the amount of the toll?—Yes, I think a great deal of traffic is so deterred; I can bear witness to that myself; for my coachman generally drives me over Westminster Bridge to avoid the toll at Vauxhall; and every gentleman knows that there is nothing so annoying as tolls, even though they are small; it is not only the money you pay, but the stoppage which is caused by it, which is an annoyance. I repeat that a great deal of relief would be given to the public, and a fine experiment made, if all the bridges now existing over the River Thames were thrown open.

395. Mr. Alderman *Challis.*] One of the witnesses on a former day, Mr. Lambert Jones, said that he thought it would be good policy on the part of the directors of the bridges, and especially of Southwark Bridge, if they were to open the bridge for one year free, in order to get rid of those prejudices which arise from a turnpike-gate, such as those you have mentioned, and to see what facilities

facilities might be offered by a free bridge; do you think that would be beneficial?—It might, but I think it would be beneficial to the company if the Government, or whoever undertakes it, would pay a sum equal to that which the company now receives in the shape of tolls, and restore the bridge to them in as good a condition as it was when they take it. I think it would be for the interest of the public to do so, and also of the company; but I am so strongly convinced that the experiment would be found to correspond with what I have said, that I should not hesitate at all to give as my opinion that it would be desirable to open all the bridges at once.

396. Mr. Jones stated, that in his opinion it would be no discredit to the judgment of the company if they were to do it without any pay from Government, or from the public?—I think that is asking too much; I think the toll the Southwark Company receive at present is not large; it is about 1,500 *l.* a year; that is no very large sum, and it would appear hard and unjust, as they have expended 700,000 *l.*, and they are receiving only 1,500 *l.*, to ask them to make the bridge toll free even for a year, even although it might be shown to be their interest to do so. My frequent journeys to the coast may be favourable to my health, but I should think it hard if the Government were to assign this as a reason for not allowing me my expenses, and something beyond.

397. Sir *J. Shelley.*] Is the 1,500 *l.* clear of expenses?—It is exclusive of the expenses of collection, as I understand it.

398. And the charges for repairs, and so on?—It is clear of all expenses, as I understand from the secretary.

399. Mr. *Wilkinson.*] The evidence of the witness alluded to is to this effect, that the company would derive a benefit in this way, that they should after that put on a small toll, so as not to choke off the traffic after the end of the year; he said he would throw the bridge open for one year free, in order to coax the traffic over it, and that the traffic being once established, he would then put on a small toll, and thus by that means the experiment would benefit all parties?—I do not agree with that. I think the companies should be compensated, and the bridges afterwards be free.

400. Mr. *Locke.*] Do you think there is a necessity for an increased number of bridges in London?—Yes; I have already said that there being only three bridges which are free bridges, and three bridges which are toll-paying, it would be desirable first of all to try the experiment of making them either free for a time or in perpetuity, before any new bridges were built. And I have said that the new Westminster Bridge being intended to be 80 feet in width, and Blackfriars being probably increased in width also, I have calculated that the width of the bridges, including Vauxhall, would be 2¼ times the width of the present free bridges, that is to say, 150 per cent. more than it now is.

401. Mr. *Wilkinson.*] You anticipate a much greater traffic over Vauxhall Bridge, if it is thrown open; is it capable of being widened to meet that traffic; it is very narrow now; about 36 feet, is it not?—Yes. I do not think that Vauxhall Bridge is likely, unless London extends very much in that direction, to become a bridge of much heavy traffic, and I think it is for ten times the present traffic wide enough. Moreover, the piers are so constructed that it would not be a difficult matter to throw out a projection on each side, and put up another parapet; but I think it would be many years before that was required.

402. Do you think that that is a feasible scheme with respect to London Bridge?—No; London Bridge being a stone bridge, although I have no doubt that it could be done as regards solidity, I do not think it could be done without hurting the architecture of the bridge.

403. You did not see the model of this scheme that was exhibited to this Committee?—I did not.

404. Lord *A. Hervey.*] On which bridge is the great amount of traffic most felt?—London Bridge decidedly, and therefore in that respect Southwark Bridge would be most important to throw open.

405. More important than Waterloo?—Yes, I think so.

406. Is not a great amount of inconvenience now felt in the excess of traffic, owing to the narrow approaches?—It is so.

407. Would not it be more convenient to have Waterloo Bridge thrown open instead of Southwark?—It appears to me that if Southwark Bridge were thrown open a large amount of traffic, particularly light traffic, would go over Southwark Bridge, and would, as I have said, in going northward and westward, find

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its way through the widened Cannon-street, and in that way relieve Cheapside and the Poultry.

408. If Waterloo Bridge were thrown open, that would relieve Fleet-street?—Yes. I have said that to try the experiment fairly, all the bridges should be opened.

409. If only one were thrown open, which would you think the most important?—I should say, still speaking off-hand, that as London Bridge is the most oppressed with traffic, the most immediate relief would be given by opening Southwark Bridge; I wish I could say either Vauxhall or Waterloo, for I have a much greater interest in both these bridges than in Southwark; but to try the experiment fairly, and on behalf of the interests of the public and of the proprietors, all should be open. To open Vauxhall would much relieve Westminster.

410. Mr. *Locke*.] Have you heard that the approaches of Southwark Bridge ought to be improved?—I think it would be desirable; the inclination of the Middlesex approach seems to me, in driving over the bridge, to be too steep, notwithstanding which I always use it in going to the City and coming from it. I live in Great George-street, Westminster, and I find it the easiest and best way into the centre of the city is to go over Westminster Bridge, and back by Southwark Bridge.

411. Have you formed any opinion as to the cost of making the approaches on the Middlesex side?—Looking at it off-hand, I presume they might be made better at a comparatively small expense; but that would not be an effectual improvement. To effectually improve the approach, of course, would be to make an archway, as was done at London Bridge, and pass the traffic under it; but that would be a very expensive affair now. The approaches to Blackfriars Bridge have been very much improved indeed, under our direction, and no one now finds fault with them.

412. You have not formed any opinion as to what the improvement in Southwark Bridge would cost?—No; if it were such an improvement as I refer to as having been made at Blackfriars Bridge, the amount would not be great.

413. You cannot say how much?—No.

414. Mr. Alderman *Challis*.] Is it possible?—I do not think, without inconvenience, it would be possible to make it as good as it is at Blackfriars; but I think that by raising Upper Thames-street a few feet, and also raising the approaches to the bridge, it might be improved, but still not to make it so good as Blackfriars.

415. Lord *R. Grosvenor*.] What is the gradient of Blackfriars Bridge, as compared with the present gradient of Westminster Bridge; which has the steepest gradient?—Westminster has the steeper, being one in 22, while Blackfriars is one in 25, taking the steepest length in each case.

416. Can you compare also Southwark Bridge with Blackfriars Bridge; can you say which is the steepest?—Southwark Bridge on the Middlesex side is the steeper, being one in 20, while Blackfriars is one in 25, which is the same inclination as upon a length of the approach to London Bridge. The approach to Southwark on the City side has the greatest inclination of any bridge now in London, but is very little worse than Westminster.

417. Mr. Alderman *Challis*.] You say that though Southwark Bridge might be greatly improved, it would be almost impossible, with the same amount of money as was laid out upon Blackfriars Bridge, to make Southwark as good?—I think it would, without injuring the property close to it. I did not say greatly improved.

418. Mr. Alderman *Cubitt*.] Going on the principle of throwing an arch over Thames-street?—That would make it much better than Blackfriars; the hollow over Fish-street Hill was remedied by an arch, but that was very expensive, and could not easily be done in this case.

419. Lord *R. Grosvenor*.] Are you accustomed to make calculations as to what the cost of making approaches to bridges is likely to be?—I am; but of course the cost depends upon many circumstances.

420. All engineers who are employed in bridge making are generally required to furnish an estimate to the Committee, or the individuals who have the building of the bridge, stating what the bridge would cost, and the approaches?—Yes.

421. You

421. You think the present approach to Southwark Bridge bad?—Yes, on the Middlesex side. *J. Walker*, Esq

422. Do you call them good on the other side?—They are much better on the other side; they are not objectionable on the Surrey side, being one in 30½. 9 May 1854.

423. You conceive that if that bridge were toll free, a very large amount of traffic would pass over it?—Yes, of all traffic, but particularly light traffic.

424. Do you think the approach on the Surrey side good enough for the amount of traffic?—I do not think it would be objected to. It is better than Blackfriars.

425. Can you give the Committee any rough guess of what the cost of the improvement would be on the Middlesex side?—So far as it could be carried on without prejudice to the property there, I should apprehend a very few thousand pounds would do.

426. No alteration could be made without purchasing the property?—Some alteration could be made without damaging the property. We made all the improvements in the approach to Blackfriars Bridge without paying anything in the shape of compensation, or making any purchase.

427. Do you know, from your own knowledge, that the improvements could be made which would render it fairly sufficient for the traffic for a small sum?—On the Middlesex side I do not think they could much improve the inclination without a considerable outlay, but the Committee will observe that it is now only 1 in 20, therefore not much steeper than Westminster, which is 1 in 22; and that a length in the approach to London Bridge is 1 in 25. Ludgate-hill is 1 in 27, and the Southwark Bridge approach is short compared with Ludgate-hill. I may add, that Vauxhall is only 1 in 35.

428. Have you ever turned your attention to making an improved communication between the Surrey side of Waterloo Bridge and Union-street, Borough, so as to allow the traffic to pass from the Surrey side of the bridge to the railway station?—I have made no calculations about it, but I do not know any improvement which would be more desirable than that. There should then be a good communication all the way from Westminster Bridge to London Bridge on the Surrey side.

429. Can you, from the knowledge which you possess of these subjects, give the Committee any information as to the probable cost of such an improvement?—I could not, it is more a surveyor's duty.

430. Mr. Alderman *Cubitt.*] If Southwark Bridge could be made a free bridge, even with the approaches in their present state, would not it greatly facilitate the traffic, and to some considerable extent relieve the pressure on London Bridge?—As regards light traffic I think it would materially, and in that way it would leave London Bridge more free for the heavy traffic. It might not greatly relieve London Bridge of very heavy traffic, but it would relieve London Bridge of much of the traffic by light carriages, and I think that, upon the whole, it would be a very great public convenience.

John Robinson M'Clean, Esq., called in; and Examined.

431. *Chairman.*] ARE you a Civil Engineer?—I am. *J. R. M'Clean*, Esq.

432. You have been connected with some of the great lines of railway?—I have. 9 May 1854.

433. Have you directed your attention to the improvements in the metropolis generally?—Yes, for many years past I have directed a good deal of attention to that subject.

434. Have you considered the subject of increased accommodation by the different London bridges?—Yes; in projecting lines of railway into the metropolis, and also in designing a system of sewerage, I have considered the question of improving the thoroughfares of the metropolis.

435. Are you of opinion that the present traffic is badly conducted by the existing bridges?—Yes; I think at some of the bridges there is a great deal of cross traffic which interferes very much with the proper traffic of the bridge.

436. Sir *J. Shelley.*] What do you mean by cross traffic?—If you take Westminster Bridge, for example, you will find there are six different currents of traffic passing Great George-street; there is the traffic between Charing Cross and the Elephant and Castle; there is the traffic between Pimlico and Lambeth,

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and there is the traffic to the Houses of Parliament, all meeting at the end of Great George-street, and causing great confusion and danger at that crossing.

437. *Chairman.*] How would you suggest to improve the bridge accommodation of London?—Having studied the traffic a good deal, it seems to me that the only way is to divert it as much as possible; widening the bridges alone would not accomplish the object of facilitating the course of traffic, you must endeavour as much as possible to separate it into different streams.

438. How would you accomplish that?—By building two bridges instead of rebuilding Westminster Bridge, the site of which is badly chosen, on account of the traffic from so many different directions meeting at a point, and intersecting one another. In a few years after the opening of the Crystal Palace, I believe it will be nearly impossible for people to pass between Parliament-street and Westminster Hall. At the present time you can scarcely accomplish it at certain periods of the day, and for children and old people it is often attended with great danger. I have seen persons knocked down at that place.

439. I believe that you have prepared a plan with reference to the improvements of this thoroughfare?—Yes; but I have understood since I first mentioned the matter that the contracts have been let for Westminster Bridge. My proposition was to build two bridges in place of one, so as to divide the lines of communication over the Thames more equally, and at the same time to separate the traffic I have spoken of.

Vide Plan (I.) at the end.

440. Will you submit your plan to the Committee? (*The same was handed in to the Committee.*)—The plan shows one new bridge, with road approaches commencing at Charing Cross, close to the Duke of Northumberland's property (but laid out so as not to interfere with the house), and terminating in the Westminster Bridge-road at its junction with St. George's-road. This road will shorten by about one quarter of a mile the distance between Charing Cross and the Elephant and Castle; and will also shorten the distance between Charing Cross and the important stations of the South Western and South Eastern Railways nearly half a mile, and will thus divert the present traffic which passes over Westminster Bridge by a shorter and much more convenient route.

Again, by widening King-street, the traffic which at the present time goes to Pimlico through Parliament-street, would be diverted at once into the Victoria-road.

The object of the other bridge, which is shown placed at the south end of the the Houses of Parliament, near the end of Great College-street, is to give a direct line of communication between Pimlico and the Elephant and Castle about a quarter of a mile shorter than the present route. It would be equally near to all parts of the Borough, and by having two bridges you would get completely free of the cross traffic I have spoken of.

441. Sir *J. Shelley.*] You propose to pull down Westminster Bridge altogether?—To remove it altogether.

442. Mr. Alderman *Challis.*] Would the approaches to your bridges be expensive?—Not at all; the property from Charing Cross to the river is of very little value.

443. Mr. Alderman *Cubitt.*] It would still be a good thing to have these two bridges even in addition to Westminster Bridge?—Undoubtedly; but Westminster Bridge is objectionable on account of the injury which it does to the whole of the property about the Houses of Parliament.

444. Would not the people coming along Great George-street be very much impeded if they were obliged to go to the south or to the east in order to cross the river?—From Victoria-street the distance would be exactly the same to the bridge road as it is at present; and I propose to alter Great George-street, as shown upon the plan.

445. How would you get there; would you not have to come round by Canning's monument?—No; by widening College-street and some of the unimportant streets beyond, which must be done, independently of any plan of mine, the best communication would be established between Victoria-street and Lambeth.

446. Lord *A. Hervey.*] Would you still think it important to have a bridge at Charing Cross when this bridge is built?—Yes, to relieve Westminster Bridge of the omnibus traffic to the Elephant and Castle.

447. Mr. *Locke.*] You would abstract the traffic from the Elephant and Castle to prevent it coming up Parliament-street?—Yes; and the only way is to divert it

it at Charing Cross. It would not answer to take it over Hungerford Bridge if widened, as there would then be cross lines of traffic at the end of Duncannon-street, in the Strand, as inconvenient as those which now exist at the end of Parliament-street.

448. Do you think that this bridge would take the traffic to Charing Cross on this side of the water?—Yes.

449. *Chairman.*] Have you made any estimate of the expense of building the two bridges that you suggest?—I have, but it is a very rough one.

450. What are your figures?—About 1,500,000 *l.* for the two, including the approaches.

451. Assuming that your plans had been suggested before Westminster Bridge had been contracted for, would the property available for that structure have had to bear this additional expense?—No.

452. Mr. *Locke.*] Did you ever propose this plan before?—I never brought it forward before. I have considered it for a long time.

453. Mr. Alderman *Cubitt.*] By the time you had the plan completed, you found it was too late; that the contract for the new Westminster Bridge was taken?—Yes, and that it was too late to suggest any alteration of Westminster Bridge.

454. This scheme of yours has been projected some time?—Yes.

455. Before even the new Westminster Bridge was determined on?—Yes; but I was unwell at the time Westminster Bridge was under consideration, or I should have mentioned it at that time.

456. Lord *R. Grosvenor.*] Can you tell us the estimated cost of Charing Cross Bridge?—I have made the estimate of the approaches from the expense of going through Birmingham, and other towns; but it is not sufficiently in detail to lay before the Committee.

457. About half the estimate you have made for the two bridges would belong to Charing Cross Bridge?—Rather more than that.

458. *Chairman.*] Have you any knowledge of the other bridges in the metropolis?—Only a general knowledge.

459. You have confined your observation to Westminster Bridge?—Yes. I have long felt the annoyance of the crossing between Great George-street and Westminster Bridge, which has induced me to suggest a mode of getting rid of it.

460. Was not this plan in connexion with some general improvements in this part of London?—Yes; I propose to convert the whole space between Charing Cross and the south end of the Houses of Parliament into a site for public buildings, as shown upon the plan now before you.

461. Mr. Alderman *Cubitt.*] Your estimate of 1,500,000 *l.* is very large; does not it also include metropolitan improvements?—Yes; for forming the roads up to a certain point in connexion with the bridges.

462. Lord *A. Hervey.*] If you were obliged to choose between throwing open Waterloo Bridge and building a new bridge at Charing Cross, which do you think the most important?—Building a new one at Charing Cross.

463. Sir *J. Shelley.*] Supposing there were a toll put on the new bridge at Charing Cross, what would you think of that?—It would be highly objectionable.

464. Would it be more desirable to build a new bridge at Charing Cross, with a toll, than to throw open the Waterloo Bridge?—I can scarcely estimate which would be the most desirable if there were a toll on the Charing Cross Bridge.

465. Mr. *Locke.*] Charing Cross is a large and central place, and the traffic meets there from all directions, and therefore you consider that it is a good point at which to have a bridge?—I think it is the best place you could find.

466. Any diversion of the traffic from Charing Cross, either by means of Westminster Bridge, or the Strand, and Waterloo Bridge, would be a great inconvenience?—Yes.

467. And therefore you think building a bridge at Charing Cross would be desirable?—Yes, for the traffic between Charing Cross and the Elephant and Castle.

468. Mr. Alderman *Challis.*] Have you ever considered any plan for providing funds for this undertaking?—Yes; in the way the funds are raised out of which county bridges are usually built, by putting a rate on the counties of Middlesex and Surrey. I have found that 44,000 *l.* a year would only be a penny in the

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pound upon the poor-rate of those two counties, and it is the usual mode of providing for the construction of bridges throughout England. Both counties will be highly benefited by the proposed bridges, and I think an additional penny in the pound would meet with very slight opposition.

469. *Chairman.*] In that case you would question the wisdom of opening the toll-paying bridges to the county?—No; I should propose doing that also.

470. Mr. Alderman *Challis.*] Do not your remarks apply to the new bridges only?—I should apply the same principle to all.

471. In addition to building the two new ones you would throw open to the public all that are paying toll?—Yes, as the greatest benefit you could possibly confer on each of the counties.

472. Do you think 44,000 *l.* a year would meet the expense of that scheme?—No; I said that a penny in the pound would raise 44,000 *l.* a year.

473. Mr. *Wilkinson.*] Which would represent something like a million of money in capital?—Yes.

474. Your calculation is made upon the expense of the two new bridges, not upon that of throwing open to the public those which now pay tolls?—I referred only to the mode of raising funds.

475. What is that to meet?—To build the new bridges, and open the present ones. I think that twopence in the pound might open all the bridges.

476. Mr. Alderman *Cubitt.*] Seeing that a penny in the pound would produce 44,000 *l.* a year, there could be no great difficulty in carrying out your suggestion?—No, nor in opening the existing bridges, as each county would benefit by it.

477. *Chairman.*] You prefer having an additional number of bridges to widening the existing bridges?—Yes; if they were all opened it would not remove the necessity of building a bridge at Charing Cross, because none of them could receive the traffic in an equally convenient way.

478. Sir *J. Shelley.*] Do you agree with the opinion of the last witness that the fact of there being a toll upon a bridge turns the traffic in another direction?—Yes.

479. Supposing the tolls were taken off Waterloo Bridge, do not you think that the portion of the traffic which now turns either to London or to Westminster Bridge would then go to Waterloo Bridge?—Undoubtedly, a portion of it.

480. And, therefore, as that is much more within reach as regards funds, than building a new bridge, do not you think that it would be better to try that first, to see what the effect would be?—I do not think it would have much effect in relieving the great traffic over Westminster Bridge.

481. Do not you think that a portion of the traffic which now comes through Westminster would be diverted to Waterloo, which would have the effect of relieving Westminster Bridge to that extent?—Yes, to that extent.

482. Mr. *Locke.*] And it would have the effect of blocking up the Strand to the same extent?—Yes, and also at a very inconvenient place at this moment.

Samuel Bateson, Esq., called in, and Examined.

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483. *Chairman.*] ARE you an Engineer and Architect?—Yes.

484. Have you given your attention to the subject of bridges in the metropolis?—Yes, I have particularly considered Blackfriars Bridge.

485. At whose suggestion did you undertake that?—I was led to think of it by having first made a design for Westminster Bridge, and I was led to that by having made previous designs for bridges. The subject was given by the Society of Arts some time ago, and I sent in a design to them which I afterwards endeavoured to adapt for Westminster Bridge, and submitted it to the Committee, but the design having been decided upon for that, I have endeavoured to adapt it to this.

486. Your present proposition is to adapt your plan to the existing bridge?—Yes.

487. At what expense?—Retaining the three arches on either side, the expense would be 125,000 *l.*, but calculating the whole bridge, I suppose it would come to about 300,000 *l.*

488. You are aware that Blackfriars Bridge has been reported upon as unsafe, and as needing to be taken down and rebuilt?—Yes; I was not aware of that till I was

I was informed by a Member that at a meeting of the Bridge-house Committee of the City of London, there was some information received that the foundations of Blackfriars Bridge were unsound.

489. Mr. Alderman *Challis.*] What does your plan propose to accomplish; does it propose to widen the bridge?—The lower design on this plan (*exhibiting a Plan to the Committee*) shows the widening of the old part of the bridge, and the renewal of the remainder; the upper design shows a plan for a new part altogether.

490. What increase of width have you?—The new part of this design is 70 feet wide; but in the plan for a new bridge I have here I have made it wider still.

491. What is the width of it now?—Forty-two feet.

492. You have made it 70?—Yes, but I have made it even wider than that in another plan.

495. You increase the width 28 feet?—Yes, by that plan.

494. At an expense of 125,000 *l.*?—Yes, retaining three arches on either side, if they can be retained.

495. *Chairman.*] What would you construct it of?—Of iron, with stone piers.

496. Mr. Alderman *Challis.*] Do you mean an entirely new bridge?—Yes, if the other part cannot be retained.

497. That is to come to 300,000 *l.*?—Yes; but then the bridge would be wider still.

498. Have you taken in the approaches?—Yes; there would be no occasion for being at any expense with respect to them.

499. Is it wider than it is proposed to make Westminster Bridge?—I do not know the width which they propose for that. Since I was informed that three of the arches on either side of Blackfriars Bridge were defective, I have prepared the design afresh, and have designed an entirely new bridge, on a plan which would make the width 100 feet, and giving two roadways of 35 feet each. I have prepared this since I was informed that the Committee had found that the foundations of the arches were unsound.

500. Mr. *Wilkinson.*] As the first arch is sound as regards its superstructure, I suppose you do not propose to interfere with the foundations, is not that so?—Except the three defective arches; I remove the three defective arches, and throw the iron work across.

501. Sir *J. Shelley.*] Are the others supposed to be secure?—I cannot speak from actual survey, but I have seen no defect in the line of the bridge.

502. Mr. Alderman *Challis.*] Did I hear you say that you understood from some one or other that three of the arches of Blackfriars Bridge were defective?—That is generally known; they are at present shored up.

503. Where did you get your information from?—From seeing the bridge, three of the arches are shored up, and you see that the line of the bridge waves.

504. Have you any superior source of information to that which the Bridge-house Committee have?—None.

505. Mr. Alderman *Cubitt.*] It would seem that you have got the information from the Bridge-house Committee?—I was informed by the Bridge Committee that the foundations of the remaining piers were defective, and of course I supposed that they had some information which I was not acquainted with. If it is not so, my former plan will remain practicable.

506. Mr. *Wilkinson.*] The piers on this plan are merely ornamental, are they not?—Not altogether; they form part of the construction.

507. Is the upper part of any use?—That, as a counterbalancing weight, forms part of the construction.

508. Do you know what the gradient is on the Middlesex side of Blackfriars Bridge?—No, I do not exactly.

509. How is that in comparison with Westminster; greater or less?—I do not know; I think I might say it is greater.

Thomas Page, Esq., called in; and Examined.

510. *Chairman.*] I THINK you are a Civil Engineer?—Yes.

511. You have an appointment under the Board of Works?—Yes.

512. Have you given your attention to the metropolitan bridges?—I have; perhaps

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perhaps it may assist the Committee if I lay before them a plan of London, showing the sites of the bridges.—(*The same was handed in.*)

513. Are you of opinion that the traffic of London is so great that it requires to build other bridges?—I am.

514. Where would you suggest that they should be built?—I think the two points where bridges would be most essential for relieving the traffic of the west end of London, are Charing Cross and the Horseferry; and with regard to the City, it would be a question of expense, whether it would be better to build a new bridge (as proposed by Mr. Bennoch), near St. Paul's, or to purchase Southwark Bridge, and make better approaches to Blackfriars Bridge and Southwark Bridge from the west end of Cheapside.

515. Mr. Alderman *Challis.*] Do you think that Southwark Bridge, upon its present gradient, could ever be made a convenient bridge to pass from the Middlesex side of the river to the Surrey side?—I think if Southwark Bridge were in the hands of the Corporation of London, they would soon improve it by altering the gradient in Thames-street, and on the Surrey side it could easily be improved in its gradient; at any rate they could give Southwark Bridge as good a gradient as Blackfriars.

516. Confining yourself to the western part of the metropolis, you have said that it would be desirable to have one new bridge at Charing Cross, and another near the Horseferry; would not this interfere with the building of the present Westminster Bridge; or would you have that altered?—In consideration of the increasing importance of Westminster, I may say that Westminster itself would be entitled to a bridge on the present site, and that the increasing population of Pimlico would require a bridge at the Horseferry; and with regard to the bridge at Charing Cross, that is certainly a metropolitan requirement, for the great line of traffic between Charing Cross and the Elephant and Castle on the Surrey side would be materially altered and improved by a bridge in that locality.

517. The Suspension Bridge would not be sufficient?—I think that the Suspension Bridge might be made into a carriage bridge. I think it was a radical mistake of the promoters in the first instance to confine it to a foot bridge.

518. Have you seen the plan of Mr. M'Clean; his proposed bridges are at the places you pointed out; viz., one at the Horseferry and one at Charing Cross?—I surveyed a line for a bridge on this plan, near to the Houses of Parliament; I communicated with Sir Charles Barry upon it, and he objected to the bridge coming so near to the Victoria Tower; Mr. M'Clean's plan, I should say, would be objectionable architecturally, as being a skew bridge over the river.

519-20. You have a plan of your own, have you not?—Yes; this is a plan (*producing the same*) which was made by me for Her Majesty's Commissioners for Metropolitan Improvements, showing bridges at Charing-cross and the Horseferry. The idea for a bridge near the Victoria Tower was on the basis of Westminster Bridge being dispensed with.

521. That seems to be a little askew?—Not with regard to the line of embankment. The plan laid down here for the bridge at Charing Cross is taken from the Parliamentary plan for a bridge, which the Government proposed in 1844. This (*referring to another plan*) is one of the Parliamentary plans, and it shows to advantage the approaches. The bridge at Charing Cross, as laid down in this plan, would have an approach from Charing Cross, of which approach the Nelson column would have formed the centre.

522. *Chairman.*] That plan would not interfere with Northumberland-house, would it?—No; it leaves Northumberland-house on one side. It is evident that if the bridge were connected by one approach with Whitehall-place, and another for heavy traffic at Scotland-yard (which could be easily obtained by removing one or two houses), then the line of the great approach to the Nelson column might remain open for future execution.

523. When were those plans deposited?—In 1844. From the Surrey side there is a branch street running to the Westminster-road, and I believe that the objection which induced the Government not to persevere with the scheme was, the damage it would do to the property on the Surrey side of the river on the line of Bridge-street.

524. Mr. *Wilkinson.*] That objection would not exist if a bridge was made at Westminster also?—No.

525. You think that bridges are required at Westminster, at Charing Cross, and at the Horseferry-road?—I do.

526. Lord *A. Hervey.*] What is the distance from the Horseferry to Charing Cross?—The distance from Westminster Bridge to the bridge at the Horseferry would be 2,300 feet, and the distance from Westminster Bridge to the proposed bridge at Charing Cross would be 1,700 feet, making the whole distance between the bridges about 4,000 feet.

527. *Chairman.*] Have you calculated the expense of constructing those two bridges?—I made a calculation at the time for the Charing Cross Bridge, the estimate for which amounted to 150,000 *l.*, exclusive of the purchase of property for the approaches, and I estimate the bridge at the Horseferry could be constructed for something like 100,000 *l.*

528. Mr. Alderman *Challis.*] Are the approaches on both sides of an expensive character?—They are not; the approach to the Horseferry could be made at right angles with the bridge, so as not to interfere with the property in the neighbourhood, and there are very great facilities for coming into the Lambeth-road on the other side. Then, at Charing Cross the approaches would not be very expensive; the approach from Whitehall Place would deteriorate the value of two or three houses at the river end, but would entail no further cost, and the approach from Scotland-yard would only require three houses to be removed.

529. By this plan you do not propose to take down Northumberland-house?—No, the road runs on the south-west side of it; I have sections of the approaches (*producing the same*) made from accurate levels, which were continued along the streets leading to the proposed bridge.

530. Will you hand them in to the Committee?—(*The same were handed in.*)

531. Mr. *Wilkinson.*] The roads marked on the plan are existing roads?—Yes, but now circumstances being changed, by Westminster Bridge being to be rebuilt, all the lines of approach would not be required.

532. Lord *A. Hervey.*] The accommodation for the traffic at this end of the road is not very good at present?—No; and the advantage of a bridge would be very great, since by it you could go almost in a straight line from Charing Cross to the Elephant and Castle, and relieve the traffic passing down Whitehall and over Westminster Bridge.

533. Mr. *Wilkinson.*] What, then, is the necessity for the Horseferry-road Bridge; if there were no Westminster Bridge, I suppose you think that the two would be almost indispensable, but whereas as Westminster Bridge is now contracted for, do you think it still necessary to have the Horseferry Bridge as well?—If you look at this plan (*a plan being shown to the Committee*) you will see that there is a great district in Pimlico which would be confined to toll bridges, Vauxhall Bridge, the New Chelsea Bridge, and Battersea Bridge, none of which are in the line of the main thoroughfares on the Surrey side; whereas the Committee will see by the plan that the Horseferry Bridge would be on a most important line for the direct traffic.

534. Which necessity arises partly from the fact that they have not got Vauxhall and Battersea Bridge free?—Yes, partly.

535. Sir *J. Shelley.*] Supposing those two bridges to be toll-free, would not that meet the demands of the traffic without a new bridge at the Horseferry-road?—If Vauxhall Bridge were free, there would be less necessity for the Horseferry Bridge, but it is probable that to make Vauxhall Bridge free, you would have to expend a greater sum than the expense of this new bridge.

536. You think it would cost less money to build the bridge at the Horseferry than to obtain possession of Vauxhall Bridge for the purpose of making it free, and to make such alterations as would fit it for the increased traffic?—I think so.

537. It is narrow in some places, is it not?—It is. I have brought here a drawing which contains sections of all the bridges in London, and which gives the particulars of their widths, &c.; Vauxhall Bridge is 36 feet wide, the road is 24 feet, the footpaths on each side taking the rest. On these sections I have also laid down the gradients of all the bridges. The drawing was made for a report to the Chief Commissioner of Her Majesty's Works, but I am permitted to leave it for the use of the Committee.

538. Can you tell us the gradient of Blackfriars Bridge as compared with Westminster Bridge?—The gradient of Blackfriars Bridge is 1 in 24, and the steepest

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steepest gradient of the present Westminster Bridge is 1 in 22; the steepest gradient on the proposed New Westminster Bridge is 1 in 54.

539. At present the gradient of Westminster Bridge is a little steeper than that of Blackfriars?—Yes, it is rather steeper.

540. Mr. Alderman *Challis.*] How would the gradient be in comparison with Southwark Bridge?—In regard to Southwark Bridge, the gradient on the Middlesex side is 1 in 17 ¼.

541. Sir *J. Shelley.*] As regards Vauxhall Bridge, although it is narrower than the other bridges, is not it almost more than sufficient for the traffic that goes over it now?—It is.

542. Supposing it to be toll-free, do you think that the traffic brought upon it would be so enormous that it would be insufficient for that traffic?—It would be sufficient for years to come, and supposing it toll-free, it offers facilities for being widened for foot passengers, thus throwing the whole bridge open for the carriage traffic, and making increased accommodation on the sides for foot passengers. I do not know what the strength of the bridge is, but I conclude it would bear that addition.

543. I understand you to say, that from a return which you have received, you believe that the receipts of Vauxhall Bridge are so great that you do not doubt that the expense of buying up the tolls would be almost equal to building a new bridge?—Yes.

544. I presume the effect of building a new bridge, toll-free, competing with Vauxhall Bridge, would be immediately to damage the Vauxhall Bridge Company?—It would reduce the income. The Vauxhall Bridge Company would then adopt the plan which the Waterloo Bridge Company have adopted, viz., that of reducing their tolls. If you buy up the present toll bridges you must spend a considerable sum of money, and, as far as the public are concerned, my opinion is you would employ that money more beneficially for the public in building new bridges.

545. Mr. *Wilkinson.*] You would then have the accommodation of additional bridges?—Yes, and would retain the accommodation of the present toll bridges.

546. Sir *J. Shelley.*] Do you think that supposing new bridges were built at the public expense, they being toll-free, anybody would go over those bridges for which tolls were charged?—Yes; I think that all people with light carriages, and especially with hired carriages, would be always willing to pay a reasonable toll to save a quarter of a mile.

547. Mr. *Wilkinson.*] Are the Committee to understand you to say, that in your opinion, taking the case of the Southwark Bridge, for which 300,000 *l.* is demanded, it would be cheaper to build a new bridge than to buy Southwark Bridge for the public?—Taking a view of the case generally, I think, with regard to Southwark Bridge, that considering the expensive nature of the property in the line of the proposed new bridge, it would be cheaper to buy Southwark Bridge than to purchase the property and build another; but, at the same time, it appears to me it would be of much greater public advantage to build a new bridge there, in the direct line of traffic, than to purchase Southwark Bridge.

548. Mr. Alderman *Challis.*] Looking to the City side of the question, is it your opinion that a road from Doctors' Commons to St. Paul's is the right line to give relief to London Bridge?—I think it is a very good line; but there might be circumstances connected with the value of property there which might influence the question of the site of the bridge.

549. The Committee have been informed that the value of the property on the Surrey side is extremely low, and that it requires improvements, and would be very much benefited by having a good bridge there. Is that your opinion also?—There can be no doubt of it; I know that Mr. Bennoch estimated the bridge at 120,000 *l.*, and he seems to have taken great pains to acquire information about it; but it is more easy to deduce the expense of the bridge than the cost of the property, on which I can give no opinion. It is evident, however, that any bridge in the neighbourhood of St. Paul's should be on such a scale and of such a style of architecture, and with such approaches, as to be worthy of the situation, opening out as it would the cathedral; indeed such a bridge should be equal to London Bridge in point of appearance.

550. Sir *J. Shelley.*] Supposing that the Committee were to decide that one bridge only should be built, where, in your opinion, would it be best that that bridge should be built?—At Charing Cross.

551. Mr. *Wilkinson.*] Taking into consideration the crowded state of London Bridge?—Yes; the state of London Bridge will be considerably improved when the alteration which has been suggested by the City architect, Mr. Bunning, has been carried into effect, viz., giving additional width to the bridge by projecting the footpaths over the face of the bridge and taking the whole width of the bridge for the carriage traffic. I think that laying out the bridge by a system of trams, so as to keep the heavy traffic on one line and the light traffic on another line, would do much to relieve London Bridge, as much, perhaps, as the widening of it would do.

552. A great deal of the inconvenience felt is in the approaches to London Bridge, not actually on the bridge itself, though it is felt there strongly; is not that an evil which nothing but a new bridge would remedy?—It is; but I think you could by a proper arrangement of the police make the traffic upon the approaches conform to the principal traffic on the bridge. There is on the Surrey side, besides the principal approach from the Borough, the approach from Tooley-street, which must tend very materially to inconvenience the traffic, and there is also the fork at King William-street and Gracechurch-street on the City side. If between the fork on the City side and at Tooley-street there were some very strict police regulations (I am not aware that there are not), which regulations were such that there should be no interruption to the traffic between those points, I think London Bridge laid out under a system of trams would be almost sufficient for the traffic that passes over it. Generally, in any bridge, the great inconvenience arises from there being heavy carriages often before the light ones; you ought to have the heavy carriages travelling on one line, and the light ones upon the other.

553. *Chairman.*] Would you extend the principle of widening?—I think I would to Blackfriars.

554. Did you hear Mr. Walker's evidence upon that subject?—I only heard the commencement of it.

555. Mr. Walker said that at present the width of the free bridges altogether was 138 feet, and he suggested a plan by which they might be brought to 323 feet, by widening the bridges now in existence, and by throwing open the toll-paying bridges; do you think that feasible?—That would necessitate widening the substructures as well as the superstructures of some of the bridges.

556. Mr. *Wilkinson.*] You are aware that Mr. Bennoch stated in evidence his belief that the bridge he proposed, including the approaches, might be executed for 500,000 *l.*; have you any means of forming any judgment yourself as to the correctness of his estimate?—The expense of the bridge would lie more in the purchase of property, and in making compensations, than in the construction of the bridge itself; I have no doubt that the gradient of Southwark Bridge would be very considerably improved by raising Thames-street a few feet.

557. Mr. Alderman *Challis.*] With an arch?—No, raising the street itself; I was looking at it a few days ago, with Sir John Rennie and Mr. Bunning, when we surveyed London Bridge; a great improvement might be made by raising Thames-street three or four feet, and raising the Surrey side, and taking off a foot or two from the bridge at the crown, which I believe can be done.

558. Mr. *Wilkinson.*] Would not that subject the whole of the traffic that went along Thames-street to a rise?—Yes.

559. Would not that lead to considerable obstructions?—It would not be any great objection, because the traffic passing up from Thames-street to Cannon-street has to go from a lower level to a higher level, and it would make the ascent easier there; so that for the traffic which passes along Thames-street, and diverges to the right-hand or the left, it would be an advantage; it would be an inconvenience to the traffic in the direct line of Thames-street, but a convenience to the branch traffic.

560. *Chairman.*] Have you made an estimate of the cost of the two bridges which you suggest in the West-end of London; that is, the Charing Cross Bridge and the Horseferry Bridge?—An estimate was made in 1844, and for the bridge proposed at Charing Cross it was 150,000 *l.*, and 100,000 *l.* for the bridge at the Horseferry.

561. Without reference to the approaches?—Without reference to the approaches.

562. Have you made any estimate for the approaches?—No. The works

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necessary for the approaches would not be very considerable, but the cost of the purchase of property would.

563. Mr. Alderman *Challis.*] Is the river about the same width as it is at the spot where it is proposed by the City to cross it, viz., Doctors' Commons?—It is considerably wider at Charing Cross than at Doctors' Commons.

564. That would cost about 140,000 *l.*?—It would cost 150,000 *l.* at Charing Cross, irrespective of the approaches; the abutments of the bridge would coincide with the proposed line of embankment on that side.

565. Mr. *Wilkinson.*] Are you speaking of an iron bridge or a stone bridge?—Of an iron bridge.

566. *Chairman.*] What would be the widtth of the bridge?—Sixty feet.

567. Sir *J. Shelley.*] Do you think the bridge at the Horseferry would cost 120,000 *l.*?—Yes.

568. Do you conceive it would cost 120,000 *l.* to buy Vauxhall Bridge?—Yes, I think it would cost more than that.

569. *Chairman.*] It pays better than any?—I believe it does; I have here a tabulated statement of the dimensions of the bridges over the River Thames.

570. Will you hand it in?—(*the same was handed in*).

Martis, 16° *die Maii*, 1854.

MEMBERS PRESENT.

Mr. Oliveira.	Mr. Alderman Challis.
Mr. Wilkinson.	Mr. Alderman Cubitt.
Mr. Pellatt.	Mr. Locke.
Mr. Jackson.	Mr. Blackett.
Sir John Shelley.	

BENJAMIN OLIVEIRA, Esq., IN THE CHAIR.

Robert Few, Esq., called in; and Examined.

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571. *Chairman.*] I THINK you are Chairman of the Charing Cross Bridge Company?—I am.

572. When was the structure commenced?—The Act for authorising the construction of the bridge was passed in 1836; the construction of the bridge was commenced in 1841, and it was finished and opened on the 1st of May 1845.

573. What is the traffic at the present time?—I have taken it from this return, given me by the secretary, of the gross traffic; the amount up to the present time is 28,978,021 foot passengers, giving an annual traffic of 3,121,980 passengers.

574. Has the traffic increased very much from year to year?—The traffic has gradually and regularly increased. I should add that this return of traffic is exclusive of the steam-boat traffic.

575. Mr. Alderman *Challis.*] How has the traffic been in the last three or four years?—It has been very regular, except the year of the Great Exhibition, and then of course there was a sudden and considerable increase.

576. *Chairman.*] Have you a table of the traffic which you can put in?—No; the traffic consists only of foot passengers, and therefore in giving you the gross or annual return, which is something above 3,000,000 passengers per annum, I have given you the whole.

577. Sir *J. Shelley.*] Have you only one fare for all descriptions of passengers?—Yes, only one fare of a halfpenny for all descriptions of passengers; but then in addition to that, there is the steam-boat pier, at which the traffic at present is about two millions and a quarter; that has been rapidly increasing of late years.

Vide Appendix, No. 3.

578. Could you give these particulars in detail?—That I could get; I give it to you as it was furnished by the clerk who attends to this business; it is no part of our revenue. That shall be laid before the Committee.

579. *Chairman.*]

579. *Chairman.*] You contemplate making a carriage-way there, do not you?—We contemplate entirely changing the nature of the present structure; the existing structure is wholly for foot passengers, as I have already explained. The original project was never fully carried out; the original project was to make a line of communication from Hungerford Market to the York-road; but from want of means it stopped short at the Belvedere-road. Since the opening of the bridge we have arranged to extend the approaches to the York-road, and in 1845 an Act was passed authorising the extension. By that Act an increase of the capital was authorised also, which has been partly applied to the purpose, and the residue is in our hands applicable to the completion of the scheme.

580. Mr. Alderman *Challis.*] What sum have you now in hand?—About 10,000 *l.*, including 3,333*l.* to be borrowed, the Act providing altogether 13,333*l.* for the extension of the Surrey approach.

581. Sir *J. Shelley.*] What sum have you in hand?—We consider that we have already in hand, including the call not made, and the 3,333 *l.* which we are authorised to raise, 10,000 *l.* We have 5,000*l.* upon deposit account at this moment.

582. Mr. Alderman *Challis.*] Did I rightly understand you to say, in answer to a question from the Chairman, that the traffic has increased to a large extent?—I was then speaking of the steam-boat traffic.

583. The amount of passenger traffic over your bridge has been pretty steady of late years?—Every year it has increased about 100*l.* The increase of this year has been at the rate of 800*l.* a year; for the last three months we have had 200*l.* over the general average receipts of those months.

584. The Committee wish to ascertain whether the general desire to cross the bridge be increasing to such a degree that the present conveniences afforded by it ought to be extended, and therefore it will be important to have an account of the progressive increase for the last few years put in?—That shall be furnished to the Committee.

585. Mr. *Jackson.*] Will you furnish all the accounts of this traffic since the opening of the South-western Railway to Waterloo Station?—I will furnish an account of the whole nine years.

586. *Chairman.*] What cost will it necessitate to make it a carriage-way?—The details of the cost will be given in evidence. I believe it will cost 150,000*l.* to make the bridge and the approaches. Mr. Baly, the engineer, is prepared to produce the plans; he is more familiar with and better competent to give the particulars of the items than myself.

587. Do you consider the situation of your bridge calculated to facilitate traffic to the metropolis if there be a carriage-way constructed?—I think that it is unquestionably the position for a bridge from Charing-cross. I had better show you the ground-plan of our bridge and its approaches, which I have here (*producing the same*), and which will better explain the matter.

588. Will you show it to the Committee (*the same was shown to the Committee*)?—Originally it was intended to have come to the York-road; but from want of funds in 1836, or rather, I believe, to cut off opposition to the Bill, it was cut short at Belvidere-road. We now have power to carry it on, and have arranged terms for the purpose with the Archbishop of Canterbury, and with the owners of the fee of the land we intend to take. We have funds sufficient, not only to pay them, but also to complete the approaches. Now it is proposed to carry our Middlesex approach through the market, widening Hungerford-street, which is to be thrown back. If necessary, the corner house in the Strand, opposite the market, will be taken, but I doubt whether it is necessary. It is also exceedingly easy to make an approach through Great Scotland Yard if it should suit our purpose.

589. Do you include that in the estimate?—No; all that we include is the dark line.

590. *Chairman.*] That includes the station at the end?—It includes the Middlesex approach.

591. Mr. *Jackson.*] What is the nature of the locality (*pointing to the Surrey side*)?—There is a great brewery (Messrs. Goding's) there, but otherwise it is very poor indeed. The dotted line on the plan shows the direction of the so-called Government street to the Town Hall, Southwark, which is close to our intended route. Our project has been in agitation for upwards of 12 months,

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and we have been in communication with the directors of the South-western Railway about these improvements, though not at all officially; they felt that if they did not adopt this course across their vacant land, a street along here might be formed by widening Griffin-street, which has houses only on one side, on the opposite side, and bring it out into the Westminster Bridge-road. In fact, this extension I brought forward last spring as chairman of the Bridge Company, in consequence of what took place in the House, and feeling that something must be done, and that we might as well do it ourselves. We have had returns taken of Westminster Bridge, to show the traffic over it; and we felt sure that by opening a direct line here, although of course it would be better that a more direct line should be made, we should essentially lighten the traffic of Parliament-street. Those were the main points which induced the directors to entertain the notion of altering the bridge in this way; and speaking only my individual opinion, and not for my colleagues, I entertain a strong opinion that, particularly if accompanied by this street, it is a bridge that will be perfectly self-supporting, and one which we should be justified in putting forward.

592. £. 150,000 will be the expense, will it not?—I find that the amount in the deposited estimate is 156,000 *l.*

593. What is the width of the proposed bridge?—It is 48 feet, but the engineer would be better able to speak to that.

594. Sir *J. Shelley.*] You said "self supporting;" is it then proposed to put a toll on it?—Yes, a very low toll.

595. Supposing Westminster Bridge to be free from toll, do you think that the public would come over a toll bridge in preference?—Yes, I feel perfectly satisfied that they would; it will be our fault if they do not go; if we put a low toll on the bridge I am sure that it will answer our purpose.

596. You do not think that the fact of a toll, no matter how small, is of itself a check to persons going over a bridge when they have an opportunity of going over?—Certainly not. Mr. Walker said in his evidence that he would not go over a toll bridge because of the inconvenience it occasioned to him; but he subsequently stated, in the same evidence, that he went over Southwark Bridge constantly. The toll on Vauxhall Bridge is exceedingly high; it used to be 4½*d.* for a cab.

597. Mr. *Jackson.*] Have you any estimate of the cost of making the approaches to the bridge?—No, I have not. I propose putting quite a low toll upon the bridge. I will now put in our returns of the Westminster Bridge traffic, taken by our own men, which give the following results: the foot traffic of one week was 341,398; of gigs and horse carriages there were 7,660; of cabs, 19,157; of carriages drawn by two or more horses, 2,192; of omnibuses and stage-coaches drawn by two or more horses, 5,326; of carts, waggons, and drays, drawn by one or two horses, 24,879; carts, waggons, and drays, drawn by three or more horses, 1,299; of vans, 2,265; of donkey-carts, 526; of trucks, 1,942; and of equestrians and led horses, 3,046.

598. Will you hand that in?—I will. (*The same was handed in.*)

599. Mr. *Wilkinson.*] Did you take that on any particular week?—No; they were taken in consequence of this Committee.

600. Is there a date on it?—From the 2d of August 1853 to the 9th of August. Then, as bearing upon that question, I beg to hand in a table of distances between various places and the Nelson Monument over Westminster Bridge, Waterloo Bridge, and Charing-cross Bridge respectively, by which I find the measurements to be very much in favour of Charing-cross Bridge. We have taken both the existing roads and the proposed roads, and the saving of distance is very great indeed, particularly to the South-western Railway Station.

601. *Chairman.*] You base your calculation upon that statement?—I do.

602. Mr. Alderman *Challis.*] You say that the toll will be so small as not to prevent traffic going over the bridge; what is the toll that you propose to take?—Speaking only my own views, I should propose twopence for a carriage with four wheels and one or two horses; and if you save half a mile by this route, cab passengers will readily pay the 2*d.* rather than the 6*d.* extra fare, which they would have to pay by the other route. I am quite sure that a low toll will induce travellers to come over this bridge.

603. Mr. *Wilkinson.*] Have you taken the distance to London Bridge, for instance, by your road, and by Westminster Bridge, and by Waterloo Bridge?—Perhaps I had better read my statement. From Nelson's Column, Charing-cross,

cross, to where the Government new road intersects the Waterloo-road over Charing-cross Bridge, the distance is six furlongs 160 feet by our proposed new street, and by the existing streets it is six furlongs 590 feet; over Waterloo Bridge the distance is one mile 260 feet; there is about a quarter of a mile difference between these two. We have then taken the distance from Nelson's Column, Charing-cross, to the booking-office of the South-western Railway, coming along this street which has been widened in order to enable us to pass under the railway, it is six furlongs 620 feet; whereas over Westminster Bridge it is one mile, one furlong, 630 feet, making upwards of three furlongs difference; and over Waterloo Bridge it is one mile, one furlong, 280 feet. If the station be extended into York-road, as successive directors have told me they contemplate doing, and if the short traffic be carried to this extreme point, and the long traffic be kept where it now is, then it is evident the advantage will be even more in favour of Charing-cross Bridge; for in that case coming over Charing-cross Bridge the distance will be five furlongs 400 feet; over Waterloo Bridge, one mile 465 feet; and over Westminster Bridge, one mile 480 feet, making very nearly half a mile difference.

604. Mr. *Jackson.*] Which is the nearest route, by Westminster Bridge or by Waterloo?—In one case it is shorter over Westminster Bridge, and in the other case over Waterloo.

605. Mr. *Locke.*] That is supposing that there will be a second station of the South-western Railway?—Yes; I have taken the route which I fixed after consultation with them. I have omitted one measurement which was particularly requested by the Committee, namely, that from the Nelson Column to the Town-hall in the Borough, over Charing-cross Bridge. By the Government road it is only 1 mile 4 furlongs 25 feet; round Fleet-street and through New Cannon-street it is 2 miles 3 furlongs 410 feet.

606. Mr. *Jackson.*] Have you measured the distance between this point and the point where you strike the Westminster Bridge-road?—I have not.

607. Were you rightly understood to say that you could reach that point by a short road?—Yes.

608. Mr. Alderman *Cubitt.*] I think you said that in one year there was a difference of 800 *l.* as compared with former years; was that in the year of the Exhibition?—No; what I stated was this, that the increase of the past three months in the present year was at the rate of 800 *l.* for the whole of this year.

609. That is an increase of 1,000 persons a day, is it not?—Yes, about that.

610. *Chairman.*] What is the whole amount of the cost of the bridge at present?—The cost of the bridge was returned at about 113,000 *l.* I have here a list of the claims (*producing the same*).

611. Will you hand it in?—(*The same was handed in.*)

612. The Committee desire to know the whole amount you have expended upon the present bridge; what is your capital at present?—The capital includes items for incidental expenses of various kinds.

613. Mr. *Jackson.*] What is the total amount of capital that you have raised for the present undertaking in round numbers?—I think it is, as nearly as possible, 137,000 *l.*, including the 10,000 *l.* raised for the extension.

614. What additional capital do you contemplate raising to carry out the plan that you now propose?—£. 150,000.

615. £. 300,000. would cover all your expenditure, and give a profit to the shareholders?—It would.

616. Can you give the Committee what you have estimated the revenue, according to the lowest scale of tolls that you would advise?—I have not the materials here from which I made my estimate; I have assumed certain proportions of the traffic over Westminster Bridge and an increase of traffic over Charing-cross Bridge; I make the gross amount about 30,000 *l.* a year; but that, of course, must be open to doubt, as another person may draw a different conclusion from my data.

617. Mr. Alderman *Challis.*] Would your existing bridge relieve you from the expense of building a new bridge?—Yes, to some extent; we propose to use the same piers, which are wide enough for the new bridge, and strong enough to bear the extended structure.

618. Mr. *Jackson.*] Are you prepared to state what in your opinion would be the

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the amount of the revenue received?—I have made the calculation, but I have not the paper here; it is from 20,000 *l.* to 30,000 *l.* per annum.

619. In what stage is the Bill for authorising these alterations?—It has passed the Standing Orders, but we stopped, partly because we wished to know the decision of this Committee before we proceeded, and partly because of the state of the money market.

620. You do not intend to proceed this Session?—No.

621. Mr. Alderman *Challis.*] Do you think that in the present state of the money market you would get the funds for it now?—I do not think so. I should propose that the 150,000*l.* should be raised by new stock taking precedence of the present shares.

622. Mr. *Jackson.*] Without going into these matters, you can state that you expect to raise the capital for your project?—Yes.

623. You think the amount of traffic will be adequate?—Quite so. I believe the traffic over this bridge will be second only to London Bridge; it will be our fault if it is not.

624. Sir *J. Shelley.*] Do you know the difference of width between this and Westminster Bridge?—I do not. There is one thing which we ought to have asked for, and which I should propose to ask for in our new Bill, namely, that inasmuch as investments of this sort have not been remunerative hitherto, and as the public will gain great benefit by it, we should be relieved in the same way as Waterloo Bridge, from all liability to rates and taxes. We should have no objection that there should be a certain limit set to the dividend, and that we should be compelled to create a sinking fund out of the excess for the ultimate redemption of the tolls; at least, speaking personally, that is my feeling.

625. Mr. *Jackson.*] Have they abandoned the idea of bringing a railway across this bridge?—We are ready to attempt it at any time if a satisfactory offer is made to us.

626. *Chairman.*] Do you pay any dividend on your capital now?—Yes; but I am not prepared to go into the financial part of the case.

627. Sir *J. Shelley.*] Is your bridge carried on by a Board of Directors?—Yes.

628. Will you furnish the Committee with a list of the Board of Directors?—I will.

629. Will you also hand in an account of the progressive increased traffic of the bridge for the last five years?—It shall be handed in.

630. Have any objections been raised by persons in that particular locality to your proposed extension (*pointing to the Surrey side*)?—Very few.

631. On the Westminster side?—Of course, we must arrange with the Hungerford Market Directors, some of whom are on our direction, but our intention is to interfere as little as possible, and to keep the same level. The road will come to the level of the Strand without any difficulty.

632. Mr. *Wilkinson.*] It will interfere rather with the market?—I should think it would very beneficially. I consider it will double or treble the value of their property.

633. *Chairman.*] Shall you take the market in?—That would have been the best plan, certainly, but they ask too much.

634. Mr. *Wilkinson.*] Do you know the estimated cost of Westminster Bridge?—I believe the lowest tender is 200,000*l.*

635. Has not the architect given any estimate?—I know of none.

636. He merely says that an estimate has been made?—Yes; that is so. Mr. Page, in his late evidence before this Committee, seems to carefully avoid committing himself to the correctness of such estimate.

Mr. Alderman *Salomons*, was called in; and Examined.

Mr. Alderman *Salomons.*

637. *Chairman.*] YOU are well acquainted, I believe, with the state of the traffic over the bridges in the city of London?—I am a citizen of London; I was born there, and I recollect the city from my earliest days. I travel a good deal over London Bridge, having a country residence near Tunbridge Wells in Kent, and am therefore often obliged to cross London Bridge. I travel a great deal, also, between the western part of London and the city; between the Marble Arch at the north of the Park and Hyde Park Corner; so that I traverse the principal thoroughfares of London, Oxford-street, Holborn, Cheapside, Fleet-street, very often

often. In fact, I may say that I have a thorough knowledge of the streets of London.

638. In your opinion is the City sufficiently supplied with bridge accommodation?—If you speak of open bridges, I say most distinctly, not; there is no one who crosses London Bridge at any time in the day, but more particularly between 9 and 12 in the morning, and between two and five in the afternoon, but must be struck with the extraordinary pressure that there is over London Bridge, caused by carts, carriages, cabs, and waggons; that of course has been greatly increased of late years by the opening of the railway, which has made it the great depôt for all the southern traffic of England.

639. Which will be increased by the opening of the Crystal Palace Railway?—I should think there will be a yearly increase with or without that, but without doubt the Crystal Palace will add greatly to the pressure on London Bridge, and on all the communications that centre at the station, and all this is of course compressed to the point where you have the convenience of a bridge; besides this, there is the short traffic which is now becoming very dense on the bridge, and by the river side.

640. How do you propose to remedy that evil?—There are two ways of remedying the evil; the first is by a better distribution of the traffic through London. It seems to me that you cannot well consider the question of bridges, without considering the mode by which the traffic of London can be better distributed through the leading thoroughfares, and therefore if you mean to open the bridges, concerning which I apprehend it is the object of this Committee to consider the means, you should in connexion with that consider the mode by which these bridges are to be reached by improved thoroughfares; therefore with regard to Southwark Bridge for example, which, as being the nearest to London Bridge, is the bridge on which there would be the greatest amount of traffic, unless before you take the tolls off that bridge which is now closed, you find some better means of communication between London Bridge and Southwark Bridge, you would not do that which I think necessary, and which I think the public look for.

641. Mr. Alderman *Challis.*] What are the alterations in the streets of London which you would suggest, in order to improve the communication?—There is one obvious principle of distribution, which is, to make the southern side of the river more available than it now is. The great depôt for persons quitting London, depôts, I may say, are the railway stations, of which there are two on the south side of the river, and the communication along the street which leads from London Bridge to Blackfriars Bridge is very bad; it hardly could be worse. If you attempt to reach Union-street, which runs from Blackfriars Bridge eastward, you encounter a number of streets which are not much better than wide lanes. I travelled through them this morning, and really they are so crooked and intricate and densely crowded, that I could hardly find my way through that portion of the road which leads to the railway station at London Bridge.

642. Mr. *Jackson.*] You consider the public approaches to Southwark Bridge to be so bad, that throwing open the bridge will be very little benefit to the public?—I think that this Committee, besides opening the bridge, should contemplate a better means of communication between the south end of London Bridge and Blackfriars on the Surrey side.

643. *Chairman.*] Are you not aware that a street in that direction has been projected?—I was aware of it.

644. And you consider that a fund has been collected for that?—I think not; but I think it should be one of the objects of this Committee to throw a certain portion of the traffic which now passes through Parliament-street and Charing-cross on the north side of the river, to the south side.

645. Mr. *Locke.*] Would not a new bridge at Charing-cross, or at Westminster, or any additional bridge, have that effect?—It strikes me that a Charing-cross bridge would take the traffic of all persons coming from the west of London to go south; there is a dense population in that part of London, and all the people from that part going south come to a point at Charing-cross. By a bridge there, you would carry a part of that on the south side of the river, instead of the north. I think that in some of the improvements I have seen proposed it is not sufficiently considered that the chief movement of the population of London is east and west, rather than north and south.

646. Have you any other proposition to suggest to the Committee except the

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one you just now suggested?—I should suggest the opening of Southwark Bridge.

647. How would you propose to open it?—By untolling Southwark Bridge and the bridges generally.

648. With reference to the approaches, would you recommend that the approaches to Southwark Bridge be made better than they are at present?—It appears to me that if Southwark Bridge were untolled, you would want a street on the Surrey side from the Town Hall, to run north-west, so as to meet Southwark Bridge-road, near to the bridge.

649. *Chairman.*] You would need to widen Union-street, in fact?—No; I want two streets running west. I understand that there is a new street projected running east and west. But with regard to Southwark Bridge, I say that the means of making that available would be, to have a street which should meet the heavy traffic of the borough, that coming from Bermondsey, and other parts, where there are large manufactories on the south side of the river; that these streets should meet at the point I have named, where there is now a wide street leading to the "Elephant and Castle;" the point of deviation should be so that a part of the traffic which now goes over London Bridge may go over Southwark Bridge.

650. What would you propose to do with the traffic over Southwark Bridge, on the Middlesex side; would you have any alteration there?—It strikes me that you may do sufficient there by raising the roadway a little, and by altering the planes of the streets leading to Cannon-street; I am of opinion that you do not want an arch to run over the street; you require a very small adjustment of the streets to make the descent from Southwark Bridge nearly if not quite so good as London Bridge is on the Surrey side.

651. Mr. *Jackson.*] You are an advocate for untolling all the bridges?—I am an advocate for untolling all the bridges.

652. Have you ever considered from what source the money should be obtained which would be wanted to give compensation to the parties interested, and how the bridges should be supported afterwards?—I think it right to state to the Committee that I am not a proprietor of shares, nor have I any interest in any of the bridges; I am here merely as a citizen of London; it appears to me that we might be able, without introducing any very new principle, to have a bridge rate; I think that a bridge rate might be levied by the county magistrates, under authority of an Act of Parliament, and that if that were done, the Government should then grant Exchequer bills on the security of the rate; and probably the City of London, I only speak now as an individual member of the corporation, would have no objection to contribute a portion also towards the scheme. I believe the City of London, with the continual improvements that are required in the city, object to bearing the entire onus of buying up Southwark Bridge; but I have no doubt that there would be a party in the corporation who would think it their duty to contribute towards it from the city cash, although they might not think it right that they should pay the whole expense of furnishing a public bridge for the whole metropolis.

653. That does not apply to Southwark Bridge only, but you merely mention that as the one which has particularly come under your observation?—I think Southwark Bridge is more indispensable from the great pressure on London Bridge; every one who goes over London Bridge must say that they experience very great injury to trade, and delay to persons going over is experienced, saying nothing as to the risk to carriages and the other inconveniences that persons suffer from having a street so thoroughly over-crowded as London Bridge is.

654. *Chairman.*] Without wishing to do any injustice to Waterloo Bridge, with which any bridge which has approaches on a level would be in a position to compete?—I think we ought to do in London what was done in France a few years ago. There were some toll-bridges in Paris at the time of the late Revolution; I know the State came forward and bought the bridges, giving an annuity to the owners in proportion to the receipts of the actual toll of the bridges. I should be very sorry to prescribe anything for Southwark Bridge that was not equally applicable to Waterloo and Vauxhall, but I spoke of the actual pressure on London Bridge, with which I am best acquainted.

655. You think the whole burden of buying up the bridges ought to be borne by the metropolis by means of a bridge rate?—Undoubtedly.

656. Mr. Alderman *Challis.*] You think so, seeing that the advantage would be

be almost as great to the market gardeners and others of that description on their coming into London?—It is very difficult to say where a line of that sort should be drawn; many persons think that the metropolis is so necessary to the whole country that everybody should contribute towards any great metropolitan improvement. I do not think so; I think it would be a disgrace to London that the neighbouring towns should be called in to aid it; I think that good streets and good bridges are obviously necessary to the convenience of London, and should have no doubt whatever that the metropolis ought to be liable for the expense of their construction; and I think that the money should be raised as it usually is in counties. I am also of opinion that a penny rate for a limited number of years ought to be sufficient for the purpose.

657. Mr. *Jackson.*] Carrying out the principle which is adopted in county improvements, that each county should pay for its own improvement, you think that this district should pay for its improvements?—The magistrates of surrounding counties have authority in all the metropolitan districts; and I do not see why they should not make a rate, under the authority of Parliament, applicable to their particular district. If that were done, there would be no difficulty in raising capital for the purchase of Southwark Bridge at a fair and reasonable value.

658. From your knowledge of the people connected with the City, do you think that if that were done they would meet the desire of the public by widening the approaches?—They have built a handsome street a little beyond a stone's throw of Southwark Bridge; and I think that having done so, they will do all that they can, by contributions or otherwise, to make the approaches convenient to the public. That is of course only my individual opinion; I cannot speak officially; I am only one of a numerous body.

659. *Chairman.*] Have you heard the evidence which has been given before this Committee?—I saw the evidence of Mr. Laing, and I have seen a statement this morning with regard to the quantity of street traffic in the principal thoroughfares of London, which I believe has been given in to the Committee, by which the Committee will see how desirable it is to separate the traffic before it is brought to a single point. Perhaps the Committee will allow me to call their attention to these two points. It seems that in Ludgate-hill about 7,000 waggons and horses pass daily; that was calculated on a certain day, the 10th of July; and that on the 11th of July, the next day, 6,375 waggons and horses passed Newgate-street. Now at Foster-lane, in Cheapside, there were 11,000; the streams coming from the west, one by Ludgate-hill, and the other by Newgate-street, are united there; and you have 11,000 passing that point. Now it strikes me that we may fairly assume that, besides making bridges, if there were some opportunity taken to distribute that traffic, by stopping it earlier, you would greatly relieve the bridges in the City of many persons that pass and repass those two thoroughfares. I find that 13,000 waggons and horses passed over London Bridge on the 13th of July.

660. Mr. *Locke.*] Would not that increase of traffic be taken away by the new bridge?—It would divide it. That shows the great necessity for opening Southwark Bridge, because, as I said before, every one coming to and from Southwark, and going along Queen-street, would go over Southwark Bridge, if it were open.

661. As the result of your experience, you wish to remind the Committee, that wherever you concentrate the traffic you should have a new distribution of the approaches?—Yes.

662. Mr. *Jackson.*] If Southwark Bridge were thrown open the traffic through Cheapside would not go to London Bridge?—No; at present it passes by that bridge, because it is barred by the toll on Southwark Bridge.

663. You think that the traffic which goes to Ludgate-hill would now go by Southwark Bridge?—Yes.

664. Mr. *Locke.*] What is your opinion with regard to the access formed to Southwark Bridge on the Surrey side and the proposed road leading from London Bridge to Union-street?—It strikes me that to make it thoroughly available two streets are wanted; one new street would be an improvement, but to make it thoroughly available, you want to be able to divide the traffic in the borough quite as much as in the City.

665. Is there any good continuous street now existing between the end of London Bridge and the Westminster Bridge-road?—I fancy Stamford-street is

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the only one; from Westminster Bridge to the end of Stamford-street in the Blackfriars Bridge-road you have a very good street; but beyond that, between Blackfriars Bridge-road and Wellington-street, Southwark, you have nothing but a parcel of *cul de sacs.* I have very often to come that way to the railway station, but I generally choose immediately to get clear of these lanes that lie between London Bridge and Blackfriars Bridge. I make a circuit, and go all the way to the Queen's Bench Prison for the purpose of having a broad street, and with the view of avoiding the stoppages that frequently take place in these narrow lanes; I start away from my house and go over Westminster Bridge, and go about a mile out of town to the Stones' End in the Borough, for the purpose of getting free of these bad streets. It appears to me that this is a most discreditable state of things in a metropolis like London.

666. Mr. *Pellatt.*] You are speaking of a road which you suggested from London Bridge to Southwark; have you seen the Government plan, which proposes not only to carry it to Southwark Bridge, but right into the Westminster-road?—I understand there were two or three plans suggested; I am speaking of a second street. I know that there is a road running east and west.

667. You are speaking of a new road?—I am speaking of a road that shall meet the Borough traffic somewhere near Union-street; I am speaking of two roads, one going due east and west, and the other north-west and south-east. I would have a street that should meet the heavy traffic of Bermondsey somewhere near the Town-hall in the Borough, to run north-westward for the purpose of getting into that new street, and so dividing the traffic. I would have two new streets.

668. Mr. *Locke.*] Would you limit the increased communication to Southwark Bridge?—To Southwark Bridge.

669. Do you think the importance of Southwark Bridge, compared with that of Waterloo Bridge, so great that it should have a distinct street of its own?—I do. London Bridge is the first bridge at which the river can be crossed. and I would endeavour if I could to facilitate that traffic by not putting more upon the bridge than circumstances would allow. All the traffic east and west of London Bridge must come to London Bridge for the purpose of crossing over to Surrey or Middlesex, and there is a great deal of traffic in Surrey from various manufactories. I would endeavour if I could to divide the traffic by giving the persons who are going over the bridges or streets west of Southwark Bridge a street in the Borough, that they may go over Southwark Bridge, and so to make London Bridge freer than it now is.

670. Do you mean that to be exclusive of any further means of communication with Westminster?—No. I would have a north and south communication between the Borough and Southwark Bridge; and I consider an east and west means of communication to be indispensable also.

Price Prichard Baly, Esq., called in; and Examined:

P. P. Baly, Esq.

671. *Chairman.*] I BELIEVE you are the engineer to the Charing-cross Bridge, are not you?—I was resident engineer under Mr. Brunel, and am now the acting engineer of the company.

672. Mr. Brunel is the superintendent?—Mr. Brunel designed the bridge, and I superintended the construction of the works under that gentleman's direction.

673. You have heard the evidence given by Mr. Few. Do you concur in his views as to the possibility of carrying a carriage road over the bridge?—I do.

674. At what cost could that be done?—The cost of the work would be 104,000*l.*, according to our estimate.

675. Will the present structure bear carriages without any strengthening?—The roadway is not wide enough.

676. How much wider do you propose to make it?—It is proposed to make the total width of the bridge 48 feet.

677. Mr. Alderman *Challis.*] How is that compared with the width of new Westminster Bridge?—I believe new Westminster Bridge will be 80 feet wide, and Waterloo Bridge is 42 feet wide.

678. *Chairman.*] Do you consider that if this bridge were made into a carriage way, it would bear the traffic very well?—I think so.

679. Have you calculated the traffic that would come over it?—That is a question which has been examined into more particularly by the Chairman.

680. You

680. You think that the receipts would pay for the outlay?—I think so.

681. Mr. *Locke.*] What is the present span of your bridge?—The present centre span is 676 feet 3.

682. How many more piers do you propose?—Not any more; we propose to retain the same spans.

683. Do you propose to keep it as a suspension bridge?—We propose to keep it as a trussed suspension carriage bridge; I have a drawing here which shows the bridge (*producing the same*).

684. Do you propose by this plan to retain the present approach?—Yes, widening it; it is proposed to retain the present piers (with slight modifications) up to the level of the present roadway; the piers are sufficiently large to allow the bridge to be widened as proposed; it is intended to place the carriage-way between the footways, on either side of which there will be strong lattice trusses running along the whole length of the bridge; the chains will be placed in two lines, one on each side of the roadway, and which will be suspended from them by triangles (as proposed by Mr. Brunel), in such a way that the whole of the chains would be deflected at any particular part by a load at that part, and which is an essential condition in a suspension bridge. In the Menai Suspension Bridge the roadway is suspended from four lines of chains, and there are four chains in each line, and originally the roadway was so attached to each of these chains alternately, that, by a load passing over the bridge, first one chain was deflected, then another, and so on until the whole of the chains were put in motion. As proposed, at the Charing-cross Bridge all the chains must be deflected at once, and, consequently, there will be very little, if any, motion. We have a very good example of a carriage suspension bridge, of 666 feet centre span, which has been erected between Pesth and Buda, in Hungary, by the late Mr. Tierney Clark, and this bridge has been subject to very great trials. Both the Hungarian and Austrian armies passed over it before it was finished. In two days 70,000 men passed over it, with all their baggage and heavy artillery, even before the flooring was trussed.

685. There is one at Friburg?—Yes; that is 860 feet span; that has simply wire ropes.

686. Mr. Alderman *Challis.*] Is there any saving in enlarging this bridge in preference to building another?—Yes.

687. Even with the advantage of 100,000 *l.* already laid out, you propose to spend 300,000 *l.*?—No; the present bridge and approaches have cost about 113,000 *l.*; our Parliamentary estimate for the alteration and approaches is 156,000 *l.*, making the total cost of the bridge, when altered, 269,000 *l.* In comparison with Westminster Bridge, the width of the river at that point is about 900 feet; at the Charing-cross Bridge, the distance from abutment to abutment is 1,350 feet.

688. *Chairman.*] You have heard Mr. Few's evidence; do you agree with him as to the probable expense of your proposed alterations?—I think that the margin between what I estimate as the actual cost of the bridge and the Parliamentary estimate will be sufficient for the approaches.

689. With the 300,000 *l.* you could carry that out?—With 156,000 *l.*, making the total cost of the bridge 269,000 *l.*

690. Mr. *Jackson.*] Have you a copy of the plan you have shown to the Committee, upon a smaller scale?—Not upon a smaller scale; the large plan shows the width of the bridge; I have cross sections and a longitudinal section of the bridge.

691. *Chairman.*] Will you favour the Committee with a small plan of the bridge?—I will.

692. And also a plan showing the approaches and contemplated improvements?—Certainly; I have a larger plan, to show how we propose to interfere with Hungerford Market.

693. Will you show it to the Committee? (*The same was shown to the Committee.*)—It is proposed to carry the approach through the centre of the market, widening Hungerford-street, the houses in which will have to be set back, and there is sufficient space behind them to enable this to be done.

694. Mr. *Jackson.*] You go through the centre of the market?—We go through the centre of the market, making use of the space occupied by the Diorama and the row of small shops shown upon the plan.

695. Have you calculated the cost of it?—That is included in the estimate.

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696. Have you ever taken into consideration the probability of taking a railway train over the bridge?—We should have to reduce the span if we did.

697. If you were to hear that between Canada and the United States they had successfully constructed a railway bridge of 800 feet span, would that alter your opinion?—I should not have much fear of constructing a bridge of that span, but it would be a question of expense; it would cost so much more for a bridge of that span, that I think the most economical way would be to build additional piers for smaller spans.

698. Mr. *Locke.*] Although such a large span is suitable for the Niagara, it does not follow that it is suitable for the Thames?—No; we should have to consider the question of the height of the bridge, the difficulty of forming piers, and so forth.

699. Mr. Alderman *Cubitt.*] With regard to the mechanical strength of the bridge, you have illustrated the reasonableness of the expectation that this will be very strong by mentioning the bridge across the River Danube; but was it not the fact that when the architect laid the foundations of that bridge, he knew pretty nearly what the bridge would have to do, whereas when you laid the foundations for this bridge you laid them for a foot bridge only?—We have very large foundations in our bridge, nearly as large as those of Mr. Tierney Clark's bridge; I have calculated the strength of the foundations, and they are sufficient for the purpose.

700. Mr. *Locke.*] Will you state what your calculation is, how much weight will be thrown upon the foundations?—It does not exceed three and a half tons upon the square foot, supposing the bridge to be fully loaded.

701. Mr. Alderman *Cubitt.*] Do you happen to know how much weight there is per square foot upon the foundations of London Bridge?—I cannot answer that question.

702. At all events, you think that this foundation is quite adequate to carry three and a half tons upon the square foot?—I know perfectly what the ground is. Upon the south pier we had great difficulty in driving the piles of the coffer-dam so as to enable us to put in the foundations.

703. Is it not on gravel?—The south pier is founded on a bed of natural concrete, and the north pier upon gravel.

704. Was not the great difficulty, with regard to Westminster Bridge, caused by the fact that it was founded on gravel?—Not the fact alone of the foundations being upon gravel, but their not being sufficiently deep below the bed of the river; our foundations are deeper than those of Westminster Bridge.

705. Mr. *Locke.*] What is the thickness of the gravel?—On the north pier it is about 10 feet; on the other side we could not bore through the natural bed of the concrete.

706. Mr. *Jackson.*] The gravel resting on a bed of clay?—First of all, the foundations stand about 10 feet below low-water mark; there is then 10 feet of gravel, and then the clay; but on the south pier I cannot say what the thickness of the stratum is, because we could not get to the bed of clay.

707. Mr. *Wilkinson.*] Has there been any elevation of the gravel since the bridge has been made?—I am not aware of any; there certainly has been none in the neighbourhood of our bridge; our foundations are also secured by a pile sheathing and the coffer-dam piles.

708. Will you furnish the Committee with a small plan of the whole bed of the river?—I will.

709. Mr. Alderman *Cubitt.*] With regard to the depth of the foundations, you have given the depth below low water; do you know how deep the foundations are below the bed of the river?—I cannot tell you from memory, but I can easily ascertain.

710. You can give the Committee a plan, showing the bed of the river?—I will; showing the bed of the river and the depth of the foundations below the bed. I will also show upon it the Trinity standard high water-mark. I will also give the Committee a section of the bed of the river, and of the foundations of the piers.

711. Sir *J. Shelley.*] Are you aware whether the Board of Directors of this bridge have in any way considered the possibility of their being asked to sell their bridge?—I am not aware whether any question of that kind has occurred.

712. *Chairman.*] It is not a very paying concern, is it?—I cannot speak upon that point.

Jeremiah Evans, Esq., called in; and Examined.

713. DO not you reside near London Bridge?—I do; within a few houses of London Bridge.

714. You are constantly observing the nature of the traffic?—Every day, and every hour of the day.

715. Is the traffic on London Bridge very crowded?—At some hours of the day it is very crowded, to the great inconvenience and great danger of passers-by. I had intended to give you the amount of traffic over London Bridge, but I have been anticipated by Mr. Alderman Salomons; but he forgot to tell you that the account was taken in the year 1850, and the traffic since then has greatly increased, and is still increasing daily; and when the Crystal Palace is open I have no doubt that it will increase 10 or 20 per cent. more.

716. How would you remedy the evil in that particular locality?—By the immediate opening of Southwark Bridge.

717. Would the present approaches be convenient for Southwark Bridge, if it were opened?—They should be improved; but even as they are, a vast traffic would go over Southwark Bridge if the toll were taken off.

718. Are you aware that negotiations have been entered into by the Corporation, as to Southwark Bridge?—Yes, I am.

719. Are they progressing?—I believe some committee of the Corporation has been directed to negotiate with the owners of the bridge; but I believe the sum asked has been considered too large by them.

720. Mr. Alderman *Cubitt.*] Has not that negotiation been altogether suspended, in consequence of the inquiry by the Bridge House Commissioners, and pending their report?—I am not aware of that.

721. *Chairman.*] Have you read the evidence that has been taken before the Committee?—I have not.

722. You have heard the Committee ask a former witness whether he thought that the Corporation of London, or the people of the metropolis, would bear a tax for the payment of the money for the purchase of that bridge; do you think they would?—My opinion upon that is, if the coal tax was continued a little longer it would be less felt by the inhabitants of the metropolis than any other tax. I think it would be less objectionable than any other that could be devised, and it would be easily collected.

723. Sir *J. Shelley.*] Do you think a party who is living just within the radius of 20 miles would think it just, or would prefer that the tax upon coals should be continued for the purpose of keeping up or buying up those bridges, rather than that the inhabitants of the metropolis should contribute for that purpose?—I should myself prefer going on as we are now going on to having any new rate.

724. Do you think that your sentiment would be shared by a person living within a quarter of a mile of the boundary of that mystical radius of 20 miles round London, over which the coal tax extends?—I consider this, that the bridges of London are not merely for the inhabitants of London, but for the public at large, and that they derive a benefit from them.

725. Why should you select that particular radius, of which we have heard so much, with which the inhabitants are taxed?—The inhabitants within that radius would be more likely to use the bridges of London than the inhabitants of places 100 miles off.

726. Mr. *Jackson.*] Would not the bridge be a benefit to all the property within that radius upon which the tax fell?—I should imagine it would be a benefit to it.

727. Would not it be better to lay the toll upon that property instead of upon the individuals consuming coal?—All individuals consume coals to a certain extent.

728. Might not the tax be fairly distributed?—I think there would be an objection to any new imposition.

729. Supposing the coal tax were not in existence, do not you think it would be more honest to levy a rate upon the whole of the metropolis than to begin a coal tax?—I am speaking now of the coal tax being in existence; but if it were not, perhaps I should not say a word about it.

730. Mr. *Pellatt.*] Does not it involve the question of direct and indirect taxation?—I should myself prefer paying a tax upon coal to having a new impost.

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731. Mr. *Locke.*] You give it, as your own individual opinion, that because there is a coal tax in existence, it is better that it should be continued than that a new tax should be imposed?—Just so.

732. Sir *J. Shelley.*] Are the Committee to understand you to say that you think that to be the general opinion of the people living within the radius of 20 miles?—No, I merely give my own opinion.

733. Mr. Alderman *Cubitt.*] You said this, that it would be paid with less dissatisfaction, and would be less obnoxious than any rates upon property for the express purpose of a bridge?—That is just what I mean.

734. Mr. *Wilkinson.*] With reference to greater facility of traffic over the bridges, you have seen the plan of Mr. Bunning for widening London Bridge?—I have not seen it, but I have heard of it.

735. Is it your opinion that that would remedy the existing evil?—I should be sorry to see it carried into effect, so as to mar such a beautiful bridge; but I do not think it would answer the purpose; it might in some degree ease the traffic, but it would not be sufficient.

736. Do you think that the mere throwing open of Southwark Bridge would be insufficient to meet the whole traffic?—I think that the throwing open of Southwark Bridge would relieve London Bridge to a considerable extent.

737. Do you think it would do so to such an extent as to render any widening of London Bridge unnecessary?—I cannot give an opinion on that question, because the population and traffic are increasing year by year, and day by day I believe within the last month no less than 3,500 omnibuses have passed over London Bridge within 12 hours.

738. Mr. Alderman *Cubitt.*] Is not your objection to the alteration of London Bridge according to Mr. Bunning's plan, rather on the score of taste?—It is rather so.

739. Have you seen the model of it which he has had made?—I have not.

740. Do not you think it possible that his galleries might be projected, so as not to disfigure the bridge?—With my limited knowledge upon this matter, I should say that you cannot add to the bridge, so as to make it more beautiful, but that if you alter it you must detract from the beauty of it.

741. Mr. *Locke.*] I understand you not to be favourable to widening the bridge, is it from that you reason?—Chiefly.

742. Do you think the widening of London Bridge would get rid of the difficulty caused by the overcrowding of the accesses to it?—The throwing the foot ways at the outside of the bridge would not relieve the bridge sufficiently, in my opinion.

743. Would it at all relieve the pressure which is now felt in the approaches on the City side of London Bridge?—If you were to relieve London Bridge, of course that would ease the traffic to a certain extent; but at the same time it would bring more traffic on to the bridge, and would thus make the matter worse.

744. Would it not be necessary under those circumstances, that if the bridge be widened the accesses should also be widened?—Decidedly.

745. Is there greater inconvenience felt now in those narrow streets in the City of London, which lead towards London Bridge, than from London Bridge itself?—I believe the main thoroughfares of the City are tolerably wide; for example, from Shoreditch Church there is Bishopsgate-street, and Gracechurch-street. There is also Cheapside, and from Finsbury-square there is Moorgate-street.

746. Do you think from Whitechapel Church into the City of London the thoroughfare is wide enough?—At Aldgate pump there is a narrow space; that ought to be widened.

747. Any increase of traffic brought in that direction by the widening of London Bridge would make the difficulty greater?—Without doubt, it would.

748. Then you think that in widening London Bridge, or giving any other facility for the traffic in that direction, one great object should be to make the City communications wider at the same time?—No doubt of it.

749. You heard the opinion expressed by Mr. Salomons with respect to that; do you agree with it?—I concur in almost every syllable he uttered.

750. Mr. *Wilkinson.*] At the same time, in new Cannon-street, and Gracechurch-street, and Eastcheap, which all lead to London Bridge, there is as much as twice the width of London Bridge itself?—The width of new Cannon-street, I believe, is 60 feet, and therefore that alone is wider than the bridge.

751. Cannon-

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751. Cannon-street, and Gracechurch-street, and King William-street, on the Middlesex side, all lead to the bridge, and their united width is more than twice the width of the bridge; since the traffic of these streets is all concentrated upon the bridge, do not you think that widening the bridge would relieve them?—Yes; the traffic over London Bridge, from a quarter to four to about a quarter past five is enormous; if a horse happens to fall, the traffic is very much delayed. I see frequently carriages turn round at my door which will not venture upon London Bridge; they turn round, and go along Cannon-street over Southwark Bridge.

752. Mr. *Pellatt.*] Have you considered how much of the west-end traffic to London Bridge might be diverted if there were good roads on the Surrey side of the river to Westminster Bridge, taking the other bridges in the way?—There are a vast number of omnibuses to Paddington and other places that go from the station on the south side of London Bridge which would keep on that side. If there were a good broad street within a short distance of the Town Hall to what is called the New Cut, which leads to Westminster Bridge, it would be a good thing; I think it would divert a vast amount of traffic.

753. Have you seen the Government plan, which goes pretty nearly along the line you have mentioned?—I do not know; I think I saw something of the sort years ago.

754. It would relieve the traffic which now goes over the bridges to a large extent?—Certainly

755. *Chairman.*] Have you seen the plan which Mr. Bennoch proposed for building a bridge near St. Paul's?—I have.

756. Do you think that desirable?—It may be desirable 10 or 20 years hence, but in the meantime it would be desirable to do that which is more readily done, viz. to throw open Southwark Bridge.

757. Mr. Alderman *Challis.*] Southwark Bridge is midway between London Bridge and St. Paul's, is it not?—It is about midway.

758. *Chairman.*] Are you of opinion that that bridge should be thrown open before another is built?—Decidedly so; no time should be lost, for the danger is great in allowing London Bridge and the approaches to remain as they are.

759. Mr. Alderman *Challis.*] Have you paid any attention to the plan which was suggested, of directing the traffic over London Bridge by forming an iron tramway, so that you will have room for four lines of carriages, supposing the foot-passenger traffic to be projected over the side, the design being to keep the heavy waggons in one line?—Supposing the horses were to fall across the other line of the road, this plan would be of no use.

760. Would it not be just the same under the present system; if a horse falls at present nothing can go by; they would not be more likely to fall on this plan than on the other?—No; I should say the traffic is now so great in King William-street that I have known foot passengers wait a quarter of an hour or more before they could get across. Fortunately there is a cab-stand, which is a great convenience as far as it goes; it assists a person to go across; you may run to the cab-stand and there wait a little, and run across at intervals; but I have myself waited 10 minutes before I could get across, even in that way; and I know that some members of my family go down into Thames-street and go under the dry arch, and come up again on the other side, rather than run the risk of crossing.

Isambard Kingdom Brunel, Esq., called in; and Examined.

I. K. Brunel, Esq.

761. *Chairman.*] THE object of this Committee is more particularly to inquire into the bridges over the Thames below Battersea. When I moved for this Committee in the House of Commons, a suggestion was thrown out by Mr. Goulburn that this would be a good opportunity to ascertain whether the Thames Tunnel might not form a new communication, in order to give further facilities to the traffic. It is for that purpose the Committee desire you to favour them with your opinion. Are you of opinion that the Thames Tunnel might be brought into use for heavy traffic?—Yes. It was originally intended for that; and there would be no difficulty in completing it.

762. The approaches form the chief difficulty?—The approaches remain to be made.

763. Would it not involve the expenditure of a considerable amount of money?—

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money?—To the best of my recollection, it would involve an expenditure of about 100,000*l.* to 150,000*l.*

764. Mr. *Wilkinson.*] That is, to form the approaches on both sides?—On the two sides.

765. Mr. *Pellatt.*] Would not it be necessary to make a very long incline plane, which would remove a good deal of property, or would you have a tunnel?—On the Wapping side, it would be decidedly necessary to make it circuitous; on the other side, now that the directions of the traffic are more determined than they were at that time, it might more cheaply, or at least more advantageously, be carried out straight.

766. You are aware of the amount of the traffic across the water at that point?—It is so entirely a matter of opinion, that I cannot speak certainly as to it. A good many years ago, when the tunnel was first projected, the traffic was taken very correctly, in order to ascertain what proportion came towards London Bridge from the east, and turned back again by Tooley-street and various other streets towards the east, and it was found to be very considerable; but of course everything has changed so much since then, that the former figures would not apply; still I should suppose that unquestionably it would be considerable. I think it is very likely that it would not be so much the traffic which now comes round by London Bridge that would go across the tunnel, but it would be a traffic created to a great degree by the tunnel, which would cause a diminution in the traffic which at present exists over London Bridge.

767. Would there be any disposition on the part of the tunnel proprietors to make concessions for the benefit of the public?—I should fancy that there is every disposition on the part of the tunnel proprietors to do anything that may be required of them; they get no dividend at present, and therefore I should suppose they would be very ready to make any terms; and besides that, I am sure that the leading men concerned in it would be deeply desirous of having it completed, and thrown open to the public.

768. What sum of money did the Government advance for the completion of the project?—We are paying something like 1,400*l.* or 1,500*l.* a year at the present time to the Exchequer Loan Commissioners. The amount borrowed was 250,000*l.*

769. What proportion of that do the present tolls pay?—The total receipts are somewhat about 5,000*l.* a year; but there are considerable expenses of repairing and watching, and lighting, and various things, and my impression is, that there is a balance of 1,400*l.* or 1,500*l.* a year, which goes to the Exchequer Loan Commissioners.

770. The repairs and other expenses being paid now, do not you think that if the project were carried out, so as to fit it for heavy traffic, the money raised would be above the margin of the expenses; so that there might be a possibility of paying the proprietors something?—I have no doubt that the completion would enlarge the traffic, and bring a larger revenue too; it would increase considerably the foot traffic; at present the foot traffic is less, I believe, than it was before the tunnel was made. At the time when the tunnel was making, the amount of traffic by the ferries across there was very large indeed, and everybody supposed that the making of the tunnel would increase it. But the improvements that have taken place everywhere else by bridges and railways and other new works, have left the property in that neighbourhood now comparatively deserted. The actual foot communication between the two sides is, I believe, considerably less than it was at that time; because that is a part of the river where the shores are cut off completely from all good means of access; and I have very little doubt that the making of an access there would enable people to communicate with the mills and other commercial yards, and would increase very considerably the amount of passenger traffic.

771. Mr. *Wilkinson.*] What is the width of the roadway?—There are two of 15 feet each; it would only do for a thoroughfare for carts; it would not answer for any quick traffic.

772. Mr. *Locke.*] What is the height of the archways?—Sixteen feet; there was an idea some few years ago of making it available for railway communication, and an offer was made by one or two of the large companies; and it was found sufficient for the railway height, which is 16 feet.

773. That idea has quite gone off now?—All such railway projects at the present moment have gone off.

774. *Chairman.*]

774. *Chairman.*] Do you think that if the expenditure necessary to render it available for heavy traffic were laid out, it would pay for that expenditure?—I should think it would repay the expenditure now required; I do not look for much dividend upon the original capital.

775. Mr. *Locke.*] Should you think that an expenditure of 150,000 *l.* upon the approaches would be sufficient?—I think so; there is very good access to it on the Wapping side, and there are very good roads to it on the north side.

776. Is there sufficient property on either side to justify such an expenditure?—It passes through a very great extent of property which would be very materially benefited by it, but whether there would be a great deal of traffic I cannot take upon myself to say. There are a good many worse communications across the Thames, over or under.

777. Have you turned your attention to the question of bridges across the Thames?—Yes.

778. Do you think it would be advantageous to the metropolis that the bridges should be bought up and made all free?—That is a very wide question. I have no doubt in the world; in fact it is almost a truism to say, that it would be a public advantage to buy the bridges and throw them open, but I have great doubts in my own mind as to the advantage to the country of introducing a system which interferes with the true proper spirit of commercial speculation. But that spirit seems to be very much interfered with in the present day in numerous cases, in railways and other matters, and therefore I do not know why an exception should not also be made in this case. I would rather leave the different plans entirely to the speculation of the public, although some speculations are bad, yet I think that you must take the bad and good together.

779. Would that opinion of yours be affected by the consideration that there are some bridges toll-free and others not?—No; the great principle would govern me still, if the public were left free to act upon the great principle of commerce. But, as I said, it is departed from so constantly now; and here is a case which probably may, as was argued, be different from ordinary cases. Without doubt it will be a great public convenience to have the bridges thrown open.

780. Sir *J. Shelley.*] Looking to the result of the speculations which have been made hitherto with regard to Waterloo Bridge and others, and considering the general belief that all those speculations have been losing concerns, do you see any prospect at the present time of any companies being formed to build fresh bridges?—I think if the Legislature does not unnecessarily interfere to prevent it; if the Board of Works and various Government departments did not step in to dictate what should be done, you might get half a dozen bridges built across the Thames next year.

781. Mr. *Wilkinson.*] Do you mean as speculations?—Yes.

782. Mr. *Locke.*] You are aware that there is a scheme on foot for widening Charing-cross Bridge?—I am, but that is interfered with now; everybody is afraid to propose anything; because the instant they do, Government steps in, and the next Session Parliament legislates differently. Nobody knows how they may safely invest their capital in these public works, or from one year to another what principles may guide them. If people were left perfectly free, with a due regard to private interests, for everybody to lay out their money as they thought best, I believe you would get half a dozen bridges across the Thames, and that they would be profitable.

783. Sir *J. Shelley.*] In what way does the course which Parliament or the Government pursue affect the case of the existing Waterloo Bridge, which is known to be a losing concern?—I do not say it would affect that; the people who made Waterloo Bridge chose to spend a great deal of money more than the public convenience required; I do not believe that that bridge would ever pay. But if parties come forward and adopt reasonable plans, the building of the bridge would not cost them a large sum of money; and if they put it in a part of the river where it was needed it would pay; but there are so many impediments in the way, that it is almost impossible to carry any such scheme into execution. In answer to a question that was put to me, I may say, that I do not think that the fact that Waterloo Bridge does not pay, or rather the fact that Waterloo Bridge cost one million and a half, and that Southwark Bridge cost a very large sum of money, will at all prevent parties coming forward to-morrow to propose a bridge upon a moderate rate of expenditure at some part

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of the river where it would pay, if there were not other causes interfering with them.

784. You think that, supposing a joint stock company were formed at the present time to build a bridge, the shares would be likely to be taken and the money paid?—I do not mean to say at this moment; but I think that in the course of a very few years it would be done very easily.

785. You think that this Committee would do well to report that in our opinion the public, if we left them alone, will step forward of their own accord, and start these speculations?—If that were the result of your inquiries you would; but, of course, I cannot pretend to say that you would do right in expressing that opinion, because I believe it; but my individual opinion is, that if the public were allowed free action, the public would presently provide bridges for the accommodation of the public.

786. Mr. *Wilkinson.*] Do you not know any instance in which a bridge constructed over the Thames has paid?—I cannot at once give you an instance in London; but I suppose that Hungerford Bridge is not far from paying.

787. Mr. *Locke.*] Do you know whether Vauxhall Bridge pays?—I do not know what the value of their shares at present is.

788. Mr. Alderman *Challis.*] You wish to express the opinion that either by a reduction in the cost of the materials, or by the aid of more skill in the construction of the bridges, they might be built for so much less a sum than any of the present bridges cost, that by building them in an economical manner and in a good situation they might be made to pay?—I do not give quite the reasons you mentioned in the question. Waterloo Bridge and Southwark Bridge both cost a great deal of money, because people chose to spend that money upon them, not merely because prices were high at the time, but because they chose to make a more costly bridge than was necessary. But with present prices, and the present information upon the subject, I believe economical constructions could be made which would afford sufficient remuneration to those people who embarked in them.

789. Sir *J. Shelley.*] Will you explain what you said just now as regards the course pursued by Government as to the difficulties which they throw in the way of such schemes being started?—I should not like to adopt the expression, "the Government throw difficulties in the way." What I said was, that we have for several years past constantly had (and perhaps very properly) so many inquiries by the Government, and expressions of opinion by the Government, as to what ought or ought not to be done in matters connected with the river embankments, railway stations, bridges, and things of that sort, that parties feel that if they propose anything which Government are opposed to, they run great risk of not getting their measure through Parliament; and there would also be a great difficulty in their obtaining money support to a measure which is unfortunately opposed to the views expressed by the different departments. Then, on the other hand, those of much experience would hesitate very much how they adopted a plan in accordance with the views of a Government department; because, from whatever cause it may arise, they have been in nine cases out of ten rejected by committees of this House. Therefore, they are placed in a dilemma between the two, and that has constantly interfered with the projection of plans. I believe there has been something proposed or recorded by Government, or parties connected with Government, in opposition to or connected with the Hungerford Bridge scheme. I constructed Hungerford Bridge, and therefore I have cognizance of a good deal that is doing with respect to it. I know that certain schemes have been proposed, or Mr. Baly's plans have been objected to by parties connected with the Board of Woods and Forests.

790. Mr. *Locke.*] Without giving isolated examples, do I understand you to say that there are impediments raised by Government and the Board of Works to plans suggested by private individuals which have the effect of impeding those projects?—I cannot adopt those words. I do not say that there are impediments raised by the Government offices, but that difficulties result from the mode of procedure in the Government offices which cause impediments to private proceedings.

791. Do you find, as a general practice, that Committees of Parliament very frequently object to plans which have received the sanction of Government?—As I stated just now, as a mere calculation of chances, my calculation has always been

been that they would decide against the previous decision of Government authorities.

792. Sir *J. Shelley.*] I presume that the Government department takes the opinion, probably, from its own engineer in any case that they might have before them?—Yes, and I think there is a great risk consequently with all Government departments, from the circumstance that the public does not know what governs the opinion of the engineer attached to a Government department; it is all done in secret; and as he is, of course, subject to the same weaknesses as the engineer attached to a railway company or any other body, he advises what he thinks consistent with the wishes of those he acts with, and consequently you are not so sure of a good and wise decision as you are with the conflict of opinions of professional men canvassed in public.

793. The Government engineer constantly gives an opinion adverse to the opinion of the engineer projecting a particular scheme, and therefore, before it can be settled, the project dies?—Very often that is the case; I may refer to the Health of Towns, and several other things. With regard to the supply of water to London, for instance, as the plans proposed by all the civil engineers of the water companies of the day were not perfect, we were told to wait, and taught to expect a much more perfect scheme from the Government. I do not know how many years have elapsed since, and nothing has been produced. When conflicting schemes are proposed, and it is open to the public in Parliament to have one or the other, they can choose pretty well between these different schemes without the assistance of Government.

794. Mr. *Wilkinson.*] Is it your opinion that, with regard to this matter, bridges are no exception to the principle of leaving these things to private competition?—I believe none whatever.

795. Mr. Alderman *Cubitt.*] As to the cost of bridges, you were asked just now whether, by improvements in science or other means, bridges could not now be constructed much cheaper than they could once. You built Hungerford, about 20 years ago, and I think your capital has been stated to have been somewhere about 200,000 *l.* or 300,000 *l.*?—The bridge cost 100,000 *l.*

796. If you were to construct a bridge to do what that has to do, could you do it for less than that bridge cost?—I do not suppose that a bridge of that span would vary five per cent. at the present moment; but a bridge would not necessarily have so large a span as we were driven to there in order to avoid opposition from the City, or some other parties, I forget who, and that adds to the expense.

797. I believe that in the accounts of this bridge, there is very little set down as expended upon the approaches; it is nearly all spent upon the bridge?—I think the cost must have been somewhere between 90,000 *l.* and 100,000 *l.* for the bridge alone, together with the immediate abutments, and the approach from the market.

798. The Committee have had an estimate of what it would cost to alter the bridge?—I have not gone into that.

799. The object of these questions is, to apply it to bridges elsewhere. You have been asked whether bridges could not be built cheaper than they are at present; what is your opinion about that?—I think bridges could be built cheaper now than 20 years ago, from a number of circumstances, partly because we possess now cheaper modes of construction; for example, we should not think it necessary to have a 700-feet span in the middle of the river, and Government has set us the example of having bridges of less height than has usually been required; they have carried through the House an Act for a bridge with less headway than usual; if it is a bridge with arches, that would help to reduce the expenditure. Bridges built at the present day will admit of more arches than the three of Hungerford Bridge. There are various other modes of construction which are now adopted by civil engineers which will admit of a cheaper mode of execution.

800. Sir *J. Shelley.*] You have spoken of Westminster Bridge; I believe that, as to the height of the bridge, a good deal turns upon the kind of traffic which comes up the river short of Westminster Bridge?—Yes. What I said was, that some private individuals have been restricted to a higher limit, whereas when Government come in they have two or three feet cut off. Private individuals have no chance, of course, when Government begins building; circumstances change, and the public suffers.

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801. Mr. *Locke.*] What you think is, that the public departments require a vast deal more than the public interest demands?—They require a great deal more than they consent to do themselves, and Westminster Bridge is a proof of it.

802. You do not mean to say that they sacrifice the public interest, but that they require of others more than the public interest requires?—I think both.

803. Mr. Alderman *Challis.*] Are you aware that a large number of highly respectable commercial houses were much vexed at the proposed height of the bridge?—Yes; I was applied to professionally to assist in opposition to that, but I did not like mixing myself up in it.

804. *Chairman.*] The object of this Committee is, first, to ascertain the fact, which is pretty well generally known, that the present bridge accommodation of the metropolis is inadequate to its wants; and, secondly, to ascertain whether we cannot construct other bridges to facilitate the traffic. Will you tell the Committee where you would suggest the construction of other bridges, looking at the population and the manner in which the traffic is divided?—I have hardly given the subject sufficient consideration to be able to point out upon the map exactly the spot where it would be best to put other bridges; I think there are a great many private and other interests affected by that, which I should hardly like to express an opinion upon; I really have not looked at the question; if I had, private interests would not prevent my expressing my opinion, but I have not done so. It strikes me that there is room for two or three bridges between Westminster Bridge and London Bridge.

805. There are two suggestions before this Committee; one is to widen London Bridge by throwing the footways over the sides, leaving the whole bridge for carriages. The second is one which was suggested by Mr. Bennoch, to build a bridge opposite St. Paul's. Do you think that that situation would be advantageous?—I should imagine, from my knowledge of the thoroughfares on the banks of the river, that a bridge across there would be advantageous in some respects, but that, unless it were constructed with very extensive approaches on the south side, it would not be of much public utility, because nothing leads to it on that side; it would lead into a miserable set of crooked and narrow streets that would not serve as approaches to a bridge.

806. Mr. *Locke.*] Is it supposed that if a bridge were placed there it would be connected with a street running nearly parallel to the river on the south side of London Bridge to the Railway station; would your opinion be modified by that?—Unquestionably.

807. Probably you think that if any additional bridge were built across the Thames, either at St. Paul's or anywhere in that locality, a communication with the south side of the river would be very desirable, in order to take off a part of the traffic from London Bridge?—If a bridge were made nearly in that position, it would be absolutely essential that some street of that sort should be made on that side.

Martis, 23° *die Maii*, 1854.

MEMBERS PRESENT.

Mr. Oliveira.	Sir John Shelley.
Mr. Wilkinson.	Sir Benjamin Hall.
Sir James Duke.	Mr. Pellatt.
Mr. Alderman Cubitt.	Mr. Jackson.
Mr. Locke.	Mr. Alderman Challis.

BENJAMIN OLIVEIRA, Esq., IN THE CHAIR.

Mr. *John Plews*, called in; and Examined.

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808. *Chairman.*] I THINK you are an Engineer?—Yes, I am a Civil Engineer.

809. Are you very well acquainted with the bridges over the Thames, in the Metropolis?—I am, with those bridges which Messrs. Jolliffe and Banks have built; that is, Waterloo Bridge, Southwark Bridge, and London Bridge, and also with

with another bridge which I suppose is not in your jurisdiction, which they built, at Staines; so that altogether they have built four bridges over the Thames.

810. Your immediate knowledge is confined to Waterloo Bridge, of which you are a director?—Yes.

811. Mr. Alderman *Cubitt.*] You have acted as engineer in the building of all of those bridges?—I have been engaged in their building, in connexion with the contractors.

812. *Chairman.*] Are you of opinion that the present bridges in the metropolis are insufficient for the traffic of the metropolis?—I think that if the toll bridges were thrown open, they would be sufficient, but more particularly if Southwark Bridge were thrown open; because, as far as Waterloo Bridge is concerned, there is not nearly the traffic over it that could be accommodated, without inconvenience to the public, and the rate of toll is low.

813. Do you think then that Waterloo Bridge should be thrown open?—That is probably a question of revenue. If the Government could find a sufficient sum of money to pay for it, I am not aware that there would be any particular objection to it on the part of the creditors of the bridge; but they would much rather that it should be left alone, because the tolls have been gradually increasing for a number of years, and it is expected that they will do so for the future. For instance, the average increase of the toll for the last three years is at the rate of 907 *l.* 8*s.* 9*d.* per annum, but upon the last year alone the increase over the preceding year was 1,108 *l.* 3 *s.* 10 *d.*; so that the creditors of the bridge have an increasing revenue. At the same time, the bridge itself is a great accommodation to the public; and they think that even Parliament is scarcely justified in interfering, unless it be for one of these two reasons: if the tolls were high, and the company were deriving a large revenue, then it might be a fair object for public inquiry; or if the bridge in itself were inconvenient, then the public might interfere. But I think that, while the tolls are reasonable, and we have not one-fifth of the traffic on the bridge which we can accommodate, we think that the public have no reason to complain.

814. When you say creditors, do you mean in fact the shareholders?—No; the shareholders of Waterloo Bridge are hopelessly insolvent, and no circumstance can affect this bridge by which they can ever receive any benefit; the annuitants have a prior claim to their dividends, and therefore any increase of the toll, which is going on gradually, goes to the annuitants. I state, in answer to the inquiries made by the Committee, that I, for instance, am a tolerable large holder of property; and if I want to raise money upon my annuities the answer will be: "This bridge will be thrown open to the public soon, and therefore we cannot deal with you." The consequence of that is, we can only dispose of our securities at a great depreciation while this inquiry is proceeding, and therefore the Committee is doing an injury to the creditors by this inquiry; although the original proprietors probably would be very glad if the bridge were to be purchased by Government, because in all probability they would get something, whereas at present their shares are valueless.

815. Sir *J. Shelley.*] Will you tell the Committee who these creditors are; how have their debts arisen?—The company borrowed 300,000 *l.*, and granted annuities of 8 *l.* per annum, for 99 years, upon the payment of 60 *l.* Afterwards, an additional 200,000 *l.* was borrowed upon annuities of 7 *l.*, upon the payment of 40 *l.*; this 60 *l.* and this 40 *l.* was understood to increase the original subscriptions of 100 *l.* to 200 *l.*, upon which they were to receive 7½ per cent. It was expected that the original subscribers would respond to this, and to a great extent they acted upon it, and took these annuities.

816. Sir *J. Duke.*] They were to receive 15 per cent.?—Fifteen per cent. upon the first 100*l.*, the original subscription, which is 7½ per cent. on the 200 *l.*

817. Sir *J. Shelley.*] What have they actually received?—The last dividend they have received was 4 *s.* in the pound.

818. What proportion is that of their payment; what do you mean by 4 *s.* in the pound?—I mean to say that a holder of an 8 *l.* annuity last year, received 32 *s.* instead of 8 *l.*

819. *Chairman.*] At the period that I moved for this Committee, an Honourable Member of the House who is on this Committee, intimated that he thought the creditors of this bridge were promoting this inquiry; according to your evidence the creditors had rather that the matter were left alone?—I say that the shareholders, whose interest is really of no value, would in all probability be very

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glad if the bridge were thrown open, under the notion that they would get something; not so the annuitants, who are the holders of property which is gradually increasing in value.

820. You think the shareholders would be benefited by it?—I have no doubt of it; if my property in the bridge consisted of shares alone, I should be very glad of the idea; for you could not take it away from me without giving something for it, whereas it is now worth nothing.

821. Sir *J. Shelley.*] I understand you to say you thought that this inquiry affected the property of Waterloo Bridge, and did damage to the creditors?—I am sure it does.

822. By the word "creditors," you mean those who advanced their money with the expectation of receiving 15 per cent.?—Certainly.

823. But instead of that, they have received only about 4 *s.* in the pound?—It is not a great many years ago since the dividends were either 2 *s.* 6 *d.* or 2 *s.* 8 *d.* in the pound, and they have gradually increased until they have reached 4 *s.*; and I must say that, from my knowledge of the circumstances as a director, I have no doubt that they will go on increasing.

824. Mr. *Wilkinson.*] When you speak of the increase as being 900 *l.* in one year, and 1,100 *l.* in another, to what do you refer?—To the increase upon the gross receipts of the tolls.

825. What were they?—The gross receipts for the last half year were 9,344 *l.* 3 *s.* 4 *d.*

826. Then it is an increase of 907 *l.* upon 18,000 *l.*?—Yes; it would be an increase upon an average of something like 18,600 *l.* a year.

827. *Chairman.*] As a civil engineer, will you favour the Committee with your opinion as to the condition of the structure in respect of solidity?—I have taken some interest in the bridge, in consequence of the active part which I took while I was with Messrs. Jolliffe and Banks at the time of its construction; I have watched it very carefully, and have seen no symptoms of its failing in any way since it was opened in 1817, neither do I expect that anything of the sort will take place. I know there is an impression abroad amongst civil engineers, that after the taking down of old London Bridge, the washing away of the bed of the river would affect all the bridges; but I am quite satisfied that any engineer who makes himself acquainted with the nature of the foundations of Waterloo, Southwark, and London Bridges, will at once be satisfied that it does not, because they are so deeply embedded in the river, and are built in such a way that, at all events, no natural cause can affect them in any way. The foundations of Waterloo Bridge are built upon piles 22 feet long; they are driven into the solid bed of the river; upon the heads of these piles there are longitudinal and transverse sleepers, and between them masses of solid masonry; half-timber planking is spiked upon them, upon which the masonry is built, eight feet below the bed of the river; so that no washing away can by any possibility affect the foundations of any of the three bridges.

828. Mr. *Wilkinson.*] That description applies to Waterloo Bridge, and London Bridge, and Southwark Bridge?—Yes.

829. The foundations of those bridges were all built in the same manner?—They were; I may say by the same engineer, as Waterloo and Southwark bridges were designed by the late Mr. John Rennie, and London Bridge by his son, Sir John Rennie, who, I believe, adopted his father's plan with regard to the foundations.

830. You have said that the planking upon which the foundations rest is eight feet below the bed of the river; does that mean the bed as it now exists, after the scouring which has taken place since the opening of new London Bridge?—No; they were eight feet below the bed of the river at the time the bridge was built.

831. Do you know how much the bed of the river has been lowered by the scouring action which has taken place?—Immediately after the pulling down of old London Bridge, soundings were taken at the two arches of Waterloo Bridge through which the great scour takes place. They were taken from a datum fixed for the purpose of ascertaining whether any material alteration took place in the bed of the river; and the company's surveyor, who is present, has very carefully examined them twice a year, and, with the exception of a slight washing through the second arch, which is caused by the steamers passing there at low water, there is no variation of any consequence; I am speaking of the substantial part of the bed of the river. One alteration has taken place: after London Bridge was

pulled

pulled down a great number of steam-boats came up, and the rippling caused by their paddle wheels has washed away all the mud from the embankments at the edges of the river; for instance, I have known places myself where a man would have sunk up to his waist in mud, where you now find nothing but shingle and gravel. I believe that is the only alteration of any consequence that has taken place, at all events in the vicinity of Waterloo Bridge.

832. In fact, it had not affected the bridge at all?—Not at all.

833. So that you come to the conclusion that the bed of the river is still about eight feet above the level of your planking?—It is; the only variation would be at the second arch, where the steam-boats come through; and I believe that there is a little alteration there, but nothing that affects the stability of the bridge. I may state that, as there has been so much said about the washing away of the bed of the river, the company have been extremely careful; and I suppose that in the last 10 years they have deposited a dozen barge loads of ragstone, where the bed of the river has been washed away by the steam-boats, and I believe that it is in a better state than ever in the neighbourhood of the bridge.

834. *Chairman.*] In the event of its being thought necessary to construct another bridge over the river, where would you suggest that the new bridge should be placed?—I believe that the great traffic that requires accommodation is in the neighbourhood of the City; I should say that it ought to be between Southwark and Blackfriars.

835. You would suggest that it should be placed somewhere near St. Paul's?—Yes; I should think midway between those two bridges.

836. Have you seen a plan projected by Mr. Bennoch for a bridge in that locality?—I have not.

837. At the west end of the metropolis you do not think that another bridge is necessary?—I do not; and particularly if Westminster Bridge is widened, which, I believe, is to be done; I think it would be a waste of public money to build another bridge, and I am quite sure that no private company would.

838. At a former meeting of this Committee, the chairman of the Charing-cross Bridge suggested that that bridge might be made into a carriage bridge; what is your opinion as to that?—I do not think it would make much difference in the facilities afforded for communication from the Surrey side of the river; it is quite as near to go over Westminster Bridge to Charing-cross as it would be to go over their bridge; I do not think it would be of much use to the public.

839. What was the cost of building Waterloo Bridge?—The cost of building the bridge was 682,369 *l.* 11 *s.* 4 *d.*, and the cost of the approaches, which includes the purchase of the land on both sides, was 255,021 *l.* 19 *s.* 11 *d.*, making a total of 937,391 *l.* 11 *s.* 4 *d.*

840. When did you obtain the original Act for constructing the bridge?—I can hardly say, but it was probably in 1808 or 1809; the secretary can speak to that.

841. Perhaps he will be also able to give the Committee information as to the revenue of the bridge?—Yes, he will be able to furnish all those particulars.

842. Sir *B. Hall.*] The cost of the bridge and the approaches, in round numbers, is above a million and a half of money?—I believe the cost of the bridge and approaches altogether was 1,050,000 *l.*, but a part of that was made up by the proprietors receiving their interest upon the amount of their deposits.

843. The shareholders received no interest out of the capital sum?—They had nothing out of the capital sum after the bridge was opened; but the real cost of the bridge was made up by the capital, including the sum I have mentioned, of 50,000 *l.*

844. There was between 50,000 *l.* and 70,000 *l.* paid out of the capital sum, as the interest upon calls?—Yes, it was about that amount.

845. What is the nature of your governing body?—We are a corporation by Act of Parliament.

846. Consisting of what?—Twelve directors, of whom three go out by rotation annually, but are eligible for re-election.

847. How often do you meet?—Once a month; and we have a general assembly every six months to receive the statement of accounts, and the half-yearly report of the state of the undertaking.

848. At those general assemblies, do many of the shareholders attend?—No; very few.

849. What is about the number of shareholders who form a quorum?—I believe

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believe the assembly must consist of 250 shares; but it is not limited as to the number of people who must be present.

850. The question referred to the number of shareholders present at those assemblies?—I should say there are seldom more than 20 or 25.

851. Including the body of directors?—Yes.

852. Do the directors generally attend their meetings?—Always.

853. In what proportion, in relation to their numbers?—Five form a quorum; and I should say there are frequently eight or nine.

854. It appears that the last half-yearly income of the bridge was 9,344*l.* 13*s.* 4*d.*?—That is the income up to February last.

855. And that gives an annual income of between 18,000*l.* and 19,000*l.*; is that the gross income, exclusive of outgoings?—Certainly.

856. What do the outgoings amount to?—Including the repair of the road, and expenses of toll-collectors, and all other charges, they amount to about 3,500*l.* a year; the secretary will give you the details.

857. Does that include all the expenses of management?—Everything.

858. What do you set down in that account for the management and direction?—The allowance to the directors is 150*l.*, and 12*l.* to the auditors.

859. Sir *J. Duke.*] Is that 150*l.* to each of the directors?—No, to all.

860. Sir *B. Hall.*] The total amount of the outgoings consists of the repairs, and necessary repairs in relation to the bridge?—The repairs, and the expenses of collection and lighting, and of repairing the roadway.

861. What are the tolls let at?—They are not let, they are kept in hand.

862. How often do the toll-collectors render an account?—Every day, and they are checked at the turnstiles, by which we know the number of people who go through them; and with respect to the horse gate, we have means of checking that also.

863. Is there any value set upon the shares now?—There is a nominal value, which varies occasionally; and when the people imagine that Government is going to buy up the shares, they will give a little more for them. But there is another circumstance which affects their value: an annuitant cannot attend the general assemblies unless he is a shareholder; and therefore he buys a number of shares, to enable him to attend to what I may call his own business.

864. Previously to the notice of a motion to apply for this Committee, what was the nominal value of the shares?—I have 12 original shares, and which I think cost me altogether 37*l.* 10*s.*, but they vary, I think, from about 3*l.* to 5*l.* a share; I am not aware of any shareholder having sold his shares for more than 5*l.*

865. This is rather an increase from what it was?—I have no doubt that this inquiry will increase their value; speculating people in the City will say, "Government will probably purchase the bridge, and we shall get something for our shares;" and they will therefore give a trifle more for them than they usually fetch as a matter of speculation.

866. It follows that, when they heard of the intention to apply for this Committee to inquire into metropolitan bridges, the effect of that was to raise the price of these shares?—I have no doubt of it, otherwise they are worth nothing I can tell the Committee a singular fact, namely, that up to the 23d of August last, the debt due to the annuitants was 2,399,937*l.* 10*s.*

867. Mr. *Wilkinson.*] Including arrears?—Including arrears; this is the difference between the small dividend they have received and the annuity which they agreed to.

868. Sir *B. Hall.*] It would not be a good speculation for the ratepayers of the metropolis to buy up this bridge?—I think not; my notion about this matter is, that the bridge is an accommodation to the few people within the circuit of a mile or so, and I do not think that the public would be benefited by its being thrown open.

869. Sir *J. Shelley.*] Are the Committee to understand you to suggest that this inquiry has affected the property of the bridge detrimentally?—Yes, it would affect the property of the creditors; for instance, if I went into the market to sell any of my annuities, I should not get such a price as the return which they will bring entitles me to.

870. This inquiry appears to have raised the price of shares; in what way does it militate against the interest of the creditors of the bridge?—Because their property is sold upon an uncertain tenure.

871. In what way does this inquiry cause it to be held upon an uncertain tenure?—Because it is supposed that, if an Act of Parliament is passed to throw open the bridges, some mode of ascertaining the value of the annuities will be fixed, and creditors will be paid off under some regulation made by Act of Parliament.

872. You said just now, that the bridge was capable of accommodating three times as much traffic as goes over it now?—Yes, it could; without the least inconvenience to the public.

873. Seeing the crowded state of the Strand, and other parts of London, how do you account for the fact that there is so much space on the bridge, and that it is not used more than it is?—I can only acccount for it by the fact, that the public will go a little way out of their way in order to go over a free bridge instead of a toll bridge.

874. Therefore you probably agree with me, that the toll is a check to persons going over the bridge?—There can be no doubt of that.

875. Therefore, if the bridge should be freed from toll in any way, the public would be fully accommodated?—The bridge would admit five times as many people as now use it.

876. Sir *B. Hall.*] When you say that the value of property of the shareholders would rise, if the Committee were to report in favour of purchasing this bridge, are we to understand that your opinion is that the value of this property would rise, inasmuch as it is possible that Parliament would recommend that something should be given for property which is now valueless?—Keeping in mind the distinction which I have made between shareholders and creditors, I think that it is clear that the value of shares may rise; because the proprietors think that, although it has merely an imaginary value, Parliament will not take it away entirely without giving them something for it; and they would speculate upon that something, seeing that their shares are now worth nothing. I trust I have now made my meaning clear.

876*. You mean to say that, inasmuch as something would be given to the shareholders, that would increase the value of their property, because it is now valueless?—Yes; it would increase the value of the property of the shareholders, but not that of the creditors.

877. Mr. *Wilkinson.*] If the shareholders received compensation for the bridge, would they give any portion of it to the annuitants?—That would depend upon the Act of Parliament. But I think that all the money for which this bridge should be sold, ought to be divided among the creditors; the others are entitled to nothing; but if a Government measure be passed taking the property from the possessors, of course they must make compensation for it.

878. Mr. *Jackson.*] You are not, I suppose, for one moment entertaining the idea that the Government, if they took compulsory powers to purchase the bridge, would consider the amount of debt upon it or the amount it cost; would they not simply consider the amount of debt upon it, without reference to the debt on the original cost?—There could not be any doubt about that.

879. Therefore, if they gave a quarter of a million or 100,000 *l.* for it, that 100,000 *l.* would go probably to the creditors, and not to the shareholders?—Yes, it would go to them, whatever the amount might be.

880. By the creditors you mean the annuitants?—Yes.

881. The annuitants having built the bridge, must be treated in the same manner as those who engaged in the original undertaking?—Without doubt that must be taken into consideration in fixing the amount of compensation; but there is one thing that must be mentioned, namely, that the greater part of the property is now in the hands of holders who have bought it at the usual market price.

882. Therefore if the public bought the bridge, the present creditors would not suffer so seriously as we might be led to suppose by seeing the amount of the original debt?—No; at the same time, any system which is adopted must be a compromise, because the returns of the bridge are increasing annually in an arithmetical series.

883. That must be taken into consideration?—Certainly.

884. Although the returns are increasing progressively, it will be some time before they pay five per cent. upon the original debt?—No man in his senses who has looked into the matter could ever fancy such a thing possible; nothing

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could ever make it pay that rate, but this gradual increase is paying the present holders of annuities very well.

885. If the ratepayers of the metropolis were to pay the owners of the bridge, they would have it at a comparatively small cost?—I do not know that; it depends entirely upon the value of the bridge. I have a notion that they could not build a bridge for much less money than it cost. You may build a light iron bridge for a trifle, but you cannot build a substantial stone bridge, like Waterloo or London Bridge, for much less than their original cost.

886. If they could construct a bridge which would cost 250,000 *l.* instead of 2 ½ millions, and which would answer every purpose of the other, you do not think that the ratepayers would spend such a large sum?—There is nothing in my evidence which would lead to the conclusion that our bridge cost 2 ½ millions.

887. Sir *J. Shelley.*] You are now expressing the opinions of the creditors whom you have spoken of?—Yes; I believe that if an Act was passed to pay the creditors according to a fair and reasonable estimate, they would be satisfied; but at the same time, I may say that I do not wish Parliament to interfere with them at all; the original shareholders might, I dare say.

888. Speaking now for the creditors, would not they much prefer that Parliament should give them some remuneration, according to a fair valuation, than that the ratepayers and Parliament should build a toll-free bridge alongside of this bridge, to take your traffic?—I think they would, certainly; but I think it would be a very difficult thing. For instance, the chief part of the money borrowed upon bond, amounting to 54,550 *l.*, was borrowed at a time when the scarcity of money was such that they could not get it from any public office. At last, I believe, Lord Crawford, who has since died, agreed to furnish the greater part of the money, upon the consideration that the company should be unable to redeem them under 999 years. How could Parliament deal with a matter of that kind?

889. Mr. *Jackson.*] Could not an Act of Parliament meet that difficulty?—I should imagine than an Act of Parliament would not be passed to cancel a sealed bond without giving an equivalent compensation.

890. Sir *J. Shelley.*] Were you rightly understood to say that the tolls were not let, but kept in hand by the directors for the benefit of the creditors?—That is so.

891. You depend upon your turn-tables for the correctness of the returns of the collectors?—Yes; they furnish a check upon the toll-collectors.

892. Have you ever heard any statements as to the experiments that were tried at the Great Exhibition with regard to the accuracy of these tables?—I have not.

893. Mr. *Jackson.*] Have the company had any negotiations with the Government about the purchase of this bridge at any time?—No; I believe some little inquiry was made by the Government, but it ended in nothing; there was an inquiry as to the cost of this bridge and of Southwark Bridge.

894. Sir *J. Shelley.*] Have the directors, at any meeting of the Board, considered the probability, or the possibility, of this bridge being purchased by Government?—It has never been considered as a matter connected with the business of the bridge; the directors may have their own individual opinions, but certainly, as a body, they have never discussed the question at all.

895. Mr. *Wilkinson.*] You were understood to say just now, that the bridge would be capable of admitting five or six times the present traffic, if necessary?—I have no doubt of it.

896. Is it not a very populous neighbourhood near the place where your bridge crosses the river?—It is.

897. The attention of the Committee has been called to the hinderance which a toll-gate gives to the traffic; is not that very great?—It does not stop the traffic in such a way as to render it any public inconvenience.

898. The question referred to the paying of the toll?—I think that does not cause much hinderance.

899. Mr. Alderman *Cubitt.*] There is no great number of people going over the bridge?—There is not.

900. Mr. *Wilkinson.*] With respect to the foot-passengers, of course the toll could not be reduced; but with regard to the carriage traffic, does it not occur to you that, under these circumstances, the carriage traffic might be much lower than it is?—No; any carriage drawn by one horse can pass for a toll of 2 *d.*, whether it be a gentleman with his gig, or a single-horse cart; and for every additional

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additional horse, without reference to what it is drawing, a penny is charged; they are as low, I think, as they possibly can be.

901. Mr. *Locke.*] Were you rightly understood to say, that there was no loss of time occasioned in passing over the bridge?—I think there is no loss of time which causes any real inconvenience; there is no more loss of time than you would suffer in passing though a turnpike gate.

902. Taking the case of a person driving over in a carriage, is there not a loss of time caused by stopping there?—There is just as much loss of time in passing through a turnpike gate anywhere else.

903. You have said that the bridge was capable of admitting five times as much traffic as at present passes over it; if there were five times as much traffic, would there not be a considerable inconvenience felt in passing, through the tolls?—I do not think there would.

904. Mr. *Jackson.*] If there were 10 times as much traffic would there not be some inconvenience caused?—If there were a greater traffic than the bridge could accommodate, you would, without doubt, suffer some inconvenience, but there is no probability of there being 10 times the present amount of traffic over the bridge, because it is not a business part of the city.

905. There is a very large railway station near, is there not?—There is.

906. Is there not a great traffic of passengers to the railway?—Yes; when the trains come in, a great number of passengers pass over the bridge, and in consequence of that the company have set a double staff of toll collectors on the bridge. There was some inconvenience felt at first, but now there is none; formerly we only used to take the toll on one side, and we felt an inconvenience from the rush just at that time, and therefore we put twice the number of toll collectors at the gates, and all the inconvenience ceased.

907. Sir *J. Shelley.*] You have heard it stated that persons in trade have been seriously imposed upon by servants with carts going over the toll-paying bridges; do not they find that the servants charge the toll, and hurry the horses round the other way?—I have heard that the servants have been in the habit of saying that they have been so many times over Waterloo Bridge, and their masters gave them the money; but in order to check this it has been made generally known to carmen that their men can always have a ticket at Waterloo Bridge, which would effectually check the practice.

908. Is that plan acted upon to any great extent by persons in trade?—I have no doubt about it; but I dare say that the secretary will know the quantity of tickets that are annually issued.

909. Mr. Alderman *Cubitt.*] Were you understood to say, that the amount borrowed by the company was half a million?—Yes; half a million was borrowed from the annuitants, and 54,000 *l.* upon bonds, so that there was 554,000 *l.* borrowed altogether.

910. And by the failure in paying, the debt has now grown to the sum of 2,000,000 *l.*?—Exactly. The whole sum is 2,399,937 *l.* 10 *s.*, up to August last.

911. Mr. *Wilkinson.*] The original interest payable upon the annuities was more than five per cent.?—It was, but the interest upon the bonds takes precedence of the annuities; and there is no dividend paid upon the bonds. We appropriate the income from the tolls, first in paying the outgoings, and next in paying interest upon the bonds; the residue is divided among the annuitants.

Mr. *George Powell*, called in; and Examined.

Mr. *G. Powell.*

912. *Chairman.*] YOU are the Chief Clerk of Waterloo Bridge?—I am, and also the surveyor.

913. As I moved for this Committee to inquire into the Metropolitan Bridges upon public grounds, I should like you to tell the Committee what number of shares I hold in this undertaking?—It is very small, but I cannot state the exact number.

914. Is it more than five?—I cannot tell without reference to the books.

915. I think I purchased in 1845 or 1846, 35 shares?—Yes; I think you have about 40 altogether.

916. In 1850 or 1851, I think, the proprietors of the bridge did me the honour to elect me a director?—Yes; you were elected a director at that time.

917. Upon which, I think, I purchased a few of your annuities; I believe 12?—Yes, that is the case.

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918. Mr. Alderman *Challis.*] How many shares are required to qualify a person to be a director?—Five.

919. Sir *J. Duke.*] That would involve an expenditure of 15 *l.*?—Yes, at the rate of 3 *l.* a share; now, at 5 *l.* a share, it would cost 25 *l.* I may state that this has been the price for a considerable time past; long before this Committee was appointed. I think Mr. Plews, who gave evidence upon that point, was under a mistake; the shares were at 5 *l.* 5 *s.* and 5 *l.* 10 *s.* long before this Committee was appointed; and they have fetched about the same price since.

920. What is the opinion of your directors, exclusive of myself, upon the subject of this inquiry?—I believe every one regrets that it has taken place.

921. They do not wish, in fact, any negotiations?—They do not. They are most of them large holders of annuities; and they find that their interest is increasing every year, and is likely to increase in future; and, of course, they are not desirous of parting with a prospective property without adequate remuneration.

922. So that, by moving for this Committee, I have not increased my popularity at your board?—Not in the least. I may state it as a fact, that the directors, as a body, were opposed to it; and it was brought forward by you without any communication whatever with any of the directors; it was not mooted at the board till you had given notice of the motion to The House.

923. What is the state of Waterloo Bridge as to its solidity?—I gave evidence before the Committee of 1828, and I say now, as I said then, that it is as firm as the Rock of Gibraltar. I viewed the progress of the work from its commencement to its completion, almost daily; I am well acquainted with its construction. But Mr. Plews has so well described that, that it is not necessary for me to make any observation upon it.

924. Have you any statements which show the whole amount of the cost of the bridge, the debt, and also the returns of the tolls?—I have. We have no debt. In fact, with the exception of the amount which has accrued by the non-payment to the annuitants of the full amount of their annuities, the company do not owe 6 *d.*

925. That you call arrears of annuities?—That is arrears of annuities.

926. Mr. *Jackson.*] What is the amount of the bonds which Lord Crawford took?—That forms part of the 54,000 *l.* which was the last sum raised by the company.

927. That is a debt, is not it?—That is a debt; and as to the property of the annuitants in this bridge, they are precisely in the position of mortgagees; 500,000 *l.* was raised upon shares, and an additional sum of 500,000 *l.* by mortgaging the tolls; so that all the revenue of the bridge is mortgaged to the annuitants, upon the condition that they were to receive 15 *l.* for their 100 *l.* The money was advanced at two periods, in sums of 60 *l.* and 40 *l.*; this annuity was 15 per cent. upon 100 *l.*, but it was only 7½ per cent. upon 200 *l.*; and it should be borne in mind that these annuities were granted to shareholders. When the 60 *l.* was granted, it was not considered as 8 *l.* for the 60 *l.*, but 5 *l.* for the 100 *l.*, and 3 *l.* for the 60 *l.*, being 5 per cent. upon the money already advanced by the shareholders at the time. The same plan was adopted with respect to the additional 200,000 *l.*, which was raised by giving 7 *l.* for 40 *l.*, which was 5 *l.* for the 100 *l.* and 2 *l.* for the 40 *l.*

928. Sir *J. Shelley.*] Then the second 100 *l.*, in fact, are preference shares?—Yes, that is the fact.

929. Sir *B. Hall.*] Is the Committee to understand that when you granted the two several sums of 100 *l.* each, that 15 per cent. was paid as interest to certain parties who had advanced 100 *l.* as a first investment; and, not receiving any interest upon that sum, advanced a second sum of 100 *l.*, upon which 15 per cent. was to be paid, which, in your estimation, gave 7 *l.* 10 *s.* for each of the 100 *l.*?—Yes.

930. Mr. *Jackson.*] If a party who had 100 *l.* share stock took 100 *l.* priority stock, it is the priority stock which gets the whole dividend, the rest of the stock getting none?—Clearly, with the exception of the interest paid upon the bond for 54,000 *l.*, that is the first charge; and the next is the payment of the annuitants of 60 *l.* and 40 *l.* shares, who are the priority creditors.

931. No one could get an annuity of 15 *l.* per cent. upon the second shares, who did not hold 100 *l.* original stock?—Clearly.

932. So that they have the whole 15 per cent. when they have paid the 200 *l.*

Therefore,

Therefore, the annuities received the whole amount of the dividends, and the shares none?—Clearly the interest of the shares was absorbed in the annuity.

933. Have you an estimate of the cost of the bridge?—I have.

934. *Chairman.*] What was the total cost of the structure?—The cost of the bridge and the approaches was 937,391 *l.* 11 *s.* 3 *d.* The bridge cost 618,369 *l.* 11 *s.* 4 *d.*, including the Parliamentary expenses.

935. Mr. *Locke.*] What is the cost of the bridge as it is now estimated?—We cannot increase the cost of the bridge by the arrears of interest. The amount of the arrears of interest is the debt due to the annuitants, which does not form any part of the cost of the bridge, because it has occurred since the bridge was opened.

936. Was the whole of the money for the entire construction of the bridge approaches raised by shares and annuities?—Yes.

937. So that any other sum that may be supposed to attach to that bridge, arises entirely from the unpaid interest?—Completely.

938. Mr. *Wilkinson.*] Is the 54,000 *l.* included in the 937,391 *l.* 11 *s.* 3 *d.* which you have mentioned?—The 54,000 *l.* is part of the money raised. The sum mentioned in the question, is the money expended.

939. Then the cost included the 54,000 *l.*?—Yes; part of that went to complete the bridge.

940. Sir *J. Shelley.*] Will you give the Committee a full account of the money raised?—In the first place, there were 4,763 100 *l.* shares, which realised 476,000 *l.* Then there were 3,000 of what are called 60 *l.* annuities raised; there were only 4,763 shares, which is not quite 5,000, but the annuities were raised upon 5,000 shares, and these 5,000 60 *l.* shares realised 300,000 *l.* There were also 5,000 40 *l.* shares, which produced 200,000 *l.* Thus you get the 500,000 *l.*, and that, together, with the bonds for 54,552 *l.*, gives us a total of 554,552 *l.*

941. The bond was taken by Lord Crawford?—Part of it was taken by Lord Crawford.

942. Was it all raised about the same time?—Yes; that makes the total of money raised to be 1,030,852 *l.*

943. Mr. *Jackson.*] The 54,000 *l.* has a prior claim over the annuities of the shareholders?—Certainly.

944. After paying the current expenses, the repair of the roadway, the expense of erecting the toll-gates, salaries, and incidentals, the next charge is the interest upon the 54,000 *l.*?—Yes; that has a priority over all the other securities. We have only two descriptions of securities; the bonds have a priority, and the two classes of annuities, although raised at different periods, share *pari passu.*

945. Can you tell the Committee what per-centage is now payable, after deducting the interest upon the 54,000 *l.*, upon the first annuities of 60 *l.*?—I should say it is exactly three per cent. upon the annuities.

946. And upon the 40 *l.*, what interest is paid?—The same.

947. In fact, there is no difference between the two?—They pay the same per-centage; the 15 *l.* is divided between them; one takes 8 *l.*, and the other 7 *l.*

948. Sir *J. Shelley.*] I understand you to say that the 60 *l.* annuities were granted to the original shareholders?—Yes.

949. And to no one else?—There were a few of them who had more than their share; but they were all granted to shareholders.

950. There were 4,763 original shares, and you afterwards created 5,000 in two instances; what became of the difference between the 4,763 and the 5,000?—The money was raised by the shareholders; there were some of the shareholders that did not take the annuities, and some were incapacitated, and could not. Then it was determined that the sum not subscribed for by the shareholders should be divided amongst those who subscribed; I think it gave about the eighth of an annuity to each shareholder, and many shareholders were entitled. It probably may explain it better by taking an example: a shareholder of five shares was entitled to five 60 *l.* annuities; if that shareholder wished for six annuities, he had to buy up the shares of others. There was also a surplus to make the exact money of 500,000 *l.*; there were one-eighth annuities, which went to the mortgagees; and, in fact, it was arranged at the office, principally by the parties who signified their desire to purchase additional annuities. The shares bore a premium at the time of about 15 per cent.

951. Did they appear upon the papers given to the parties purchasing them as shares, or did you call them annuities?—We called them annuities; an annuity deed was given to each purchaser.

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952. Mr. *Jackson.*] If a party, who was not a shareholder, wished to purchase some of these annuities, how would he have obtained them?—He would have applied to the shareholders; the whole of the money was raised by shareholders.

953. What is the present worth of a 60 *l.* annuity?—They are selling at about 29 *l.* 10 *s.*, and the 40 *l.* annuities are worth about 25 *l.*

954. Mr. *Locke.*] Were you rightly understood to say, that the first shares and the annuities, and the 54,552 *l.* of bonds, making a total of 1,030,852 *l.*, were all the sums advanced upon the credit of the tolls?—Yes.

955. You have also stated that the bridge cost 937,391 *l.* 11 *s.* 3 *d.*, is not that so?—Yes.

956. The difference between those two sums is 93,461 *l.*; will you tell the Committee how that sum was raised?—I have stated that a considerable amount of income arose from interest upon the money raised; I should also state, that the City of London, before they would allow a stone to be laid or a pile driven, required the Bridge Company to deposit 50,000 *l.* in the Bank of England. The reason of this was, that it was said by Mr. Mylne, the engineer who built Blackfriars Bridge, that it was utterly impossible to build a bridge on the site of the present Waterloo Bridge, and that if it was attempted it would remain as a monument of the ignorance of the man who attempted it; and therefore the City of London required 50,000 *l.* to be deposited in the Bank of England before they would allow a pile to be driven into the river; and that 50,000 *l.* which was so impounded could not be released, until they were satisfied that that 50,000 *l.* was sufficient to complete the superstructure. Therefore during the progress of the bridge we regularly received the interest of this 50,000 *l.*, and therefore there is another sum to be added to the amount of the capital of the company, which was not raised, but arose from the money raised by the shares forfeited.

957. Have you a statement of the entire sum raised?—I have stated the capital raised to be 1,030,852 *l.*; there was an additional sum of 28,612 *l.* 15 *l.* 5 *d.* arising from interest, fines, and shares forfeited, making a total of 1,059,464 *l.* 15 *s.* 5 *d.* Now I will account for that. I have stated the cost of the undertaking to be 937,991 *l.* 11 *s.* 3 *d.*; there was paid for interest upon shares which was paid out of the capital, and for the 8 *l.* annuities upon the 300,000 *l.* which was raised during the progress of the work and before its completion, a sum of 122,073 *l.* 4 *s.* 2 *d.*, making a corresponding total.

958. *Chairman.*] Was the 50,000 *l.* deposited in the bank paid back by the City?—It was paid when the surveyor certified that that sum would be sufficient for the completion of the superstructure.

959. Mr. *Locke.*] So that in fact the shareholders have received 122,073 *l.* 4 *s.* 2 *d.*?—Certainly; the shareholders received five per cent. upon the several instalments, and they also received the proper amount of annuity for a short period.

960. Mr. Alderman *Challis.*] How many shares were forfeited?—I do not know exactly, but in round numbers about 150.

961. Those 150 shares that were forfeited were entitled to so many annuity bonds paying 15 per cent.; who had those bonds?—They were divided among the several annuitants who subscribed, but I cannot tell you who they were.

962. Mr. *Locke.*] They were divided rateably among those who had the first interest?—Certainly.

963. Sir *J. Duke.*] Have you found any inconvenience in the use of the turnstiles?—None whatever.

964. Have you any opinion upon the subject yourself, as to whether there are likely to be any errors in them?—I have not.

965. Have you ever heard that there was an error in them?—There is only one way by which the company could be defrauded by these turnstiles, and that is by the toll-collector allowing two parties to pass through at once.

966. You are perfectly satisfied in your own mind that the bridge is safe from fraud?—I have attended to it for more than 30 years, and that is my opinion.

967. Did you ever hear, in any place where the same arrangement was adopted, of any errors being detected in the action of the turnstiles?—Yes, I have, and parties have come to me about it, and I have shown them how utterly impossible it was that any error should arise, if you check the toll-man.

968. Did you take any trouble to ascertain how the error had arisen, in the case of the Great Exhibition?—It could only be by two people passing through at the same time.

969. Might

969. Might not there be some error in the machinery for registration?—I do not see how that is possible.

970. Have you given yourself the trouble to ascertain how the error arose?—I will admit that our machine gets out of order sometimes, but then it shows it at once; I do not mean to say that they are not out of order occasionally.

971. Then of course the machine becomes defective?—Yes, just as a clock occasionally gets out of order, and does not go correctly; but in that case, you send for the clockmaker, and he puts it in order.

972. Sir *J. Shelley.*] The question was asked, in order to ascertain whether, in all probability, it would not be better policy to let the tolls?—If you were to let the tolls you would be ignorant of any increase; if the income from the tolls had arrived at its maximum, I think it would be good policy to let them; but as they are increasing every year, and there is a progressive increase, I think it would be very bad policy, because you could not tell to what extent the tolls increased.

973. Mr. *Jackson.*] Did you ever find the number of passengers who passed in one day greater than that indicated by the machine?—Certainly.

974. How can it then be correct?—It is utterly impossible to prevent it. If a crowd passes the gate, as, for instance, when a theatre is over, in pressing through, two will often pass at the same time, and if two were to pass through the space where one only should pass, the machine would indicate only one, and the toll-collector would receive his money instead of the company. The machine is locked up, and the toll-collector has no access to it, and if he had he could not alter it.

975. Mr. Alderman *Cubitt.*] Could you tell the Committee what the amount of outgoings of the bridge is?—Yes, I can give it in detail; I brought from my office the two last audits of the two last half-years, giving the wages of the toll-men, lighting, watering, oiling and cleaning indicators, coals and candles, repairs of roads, salaries to chief clerk and assistant clerk, remuneration to directors and auditors, stationery, printing, &c., and incidentals.

976. Will you hand them in?—(*The same were delivered in*). *Vide* Appendix, No. 4, (A.) (B.)

977. Mr. *Locke.*] Are those tables for two consecutive half-years?—Yes; they are for the half-years ending August last and February last.

978. Mr. *Wilkinson.*] Is the expense pretty equally distributed over the two half-years?—No, they vary; the summer half of course is more than the winter; our accounts close in August and February.

979. Mr. *Jackson.*] Could you put in the receipts and disbursements of the last 10 years, not specifying the particulars, but the gross sum received and expended, and the amounts paid to the annuitants during that time, so as to show the Committee the progressive increase?—I have a statement before me, showing, for every half-year since the bridge was opened, the receipts for horse and foot passengers, and the several dividends paid during that period. In the last year, ending in February, our receipts were 19,197 *l.* 0 *s.* 11 *d.* for the 12 months.

980. That is a financial statement of the progress of the undertaking from its opening?—Yes. I find that I mentioned here circumstances that would influence the toll, such as the stoppage of Westminster Bridge.

981. Will you hand it in?—(*The same was delivered in*). *Vide* Appendix, No. 4, (C.)

982. Have any negotiations ever been entered into with the Government with reference to purchasing this bridge?—I had a summons to attend the Select Committee upon Metropolitan Improvements in July 1836. Mr. Alderman Wood was the chairman of that Committee, and I gave evidence before it at that time similar to my present evidence, and I believe that the evidence is printed.

983. *Chairman.*] There was no negotiation entered into by Government with respect to this particular bridge?—Never.

984. Was not some application made to the Duke of Wellington's Government about purchasing the toll bridges?—There was a scheme got up for throwing open all the toll-bridges, and the party who devised it applied to the Duke of Wellington; and I have a copy of the Duke's answer. It was Mr. Cope who got up the scheme; and this letter was written by the Duke of Wellington, in answer to an application by Mr. Cope, who, I believe, put a few hundred pounds in his pocket, without ever having intended to open the bridges:—"London, 7th May 1839. The Duke of Wellington presents his compliments to Mr. Cope, and has received his letter. The Duke understands the bridges to which Mr. Cope refers, as requiring the non-payment of tolls for the use thereof by passengers, are private property. The Duke begs leave distinctly to decline to be a party to

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carry into execution any measure which shall have for its object to deprive the individual proprietors of the bridges of their property, without full compensation and their consent. If the public require the accommodation of having the use of the bridges without the payment of toll, the Government should communicate with the proprietors of them, and treat with them for the purchase of their property. As the Duke is not the Government, he can have nothing to say to the affair."

George Rennie, Esq., called in; and Examined.

G. Rennie, Esq.

985. *Chairman.*] YOU are well acquainted, I believe, with Southwark Bridge?—Yes.

986. In your opinion, is it in a sound condition?—It is.

987. In all respects?—In all respects.

988. Are the approaches good?—The approaches are as good as they ever were. I do not admire the approaches; they appear to me to be reproaches.

989. Have you any knowledge of the traffic which at present passes over the bridge?—I have not; the secretary will speak to that.

990. Do you think that it would be desirable to throw it open to facilitate the traffic of the metropolis?—I do think so.

991. Where would you provide the funds from?—It is hardly the province of an engineer to answer that question.

992. What did the bridge cost?—I have understood that it cost between 600,000*l.* and 700,000*l.*

993. Can you give us the official statements with regard to the bridge?—No; the secretary will do that, or the chairman.

994. If it were made an open bridge, do you think it would be sufficiently strong to bear the increased traffic?—Certainly; it is capable of bearing itself, and therefore it is capable of bearing any traffic that can go over it. I beg to state that I have recently made a report upon the state of the bridge, which perhaps might be of use to the Committee.

995. Will you hand it in to the Committee?—

[*The same was delivered in, and is as follows:*]

Sir, Holland-street, 30 January 1854.

Herewith I send you the accompanying plan of the abutments and piers of the Southwark Bridge; also, the sections of the bed of the river under the bridge, as indicated by the soundings in blue circles when taken last May, 1853. The results of this survey were, that the whole of the masonry and foundations, with the exception of the joints between courses (which require fresh pointing) was in the most perfect state, and no settlement could be detected in the levels nor any crack in the masonry. The bed of the river had attained its regimen or section given to it by the current, and no holes or partial corrosions were found in the bottom. The iron-work, consisting of the whole of the three arches, including the segments, cross plates, abutting plates, and diagonal strutts and wrought iron keys and wedges, was in the most perfect state of preservation (care having been taken to protect it by paint or), and not a crack was visible in any part, and the arches were in a perfect state of equilibrium. As regards the effects of expansion, it was satisfactorily proved by the late Mr. Rennie, and Messrs. Walker of Rotherham, in 1820, that the greatest expansion or elongation on a length of 231 feet of the cornice of one of the arches between the hours of three A. M. and five P. M. in several of the hottest days of the summer of that year, was only one inch; and subsequently, according to a careful series of experiments made on the rise and fall of those arches by Sir John Rennie and myself, the average rise and fall for the extremes of temperature was only $\frac{1}{40}$ of an inch for every 10 degrees, or $\frac{3}{40}$ of an inch in all for 40 degrees: a quantity almost insensible, but in no case affecting the pressure on the piers and abutments, as the arches rise and fall with every increase and decrease of temperature, a fact peculiar to all bridges, whether of iron or stone. In conclusion, I have no hesitation in giving it as my opinion, that the bridge is not only as firm as when first erected, but that it will bear, with perfect security, as much traffic as either of the metropolitan bridges.

I remain, &c,
(signed) *George Rennie.*

James Leith, Esq.,
Secretary, Southwark Bridge Company.

Joshua Walker, Esq., called in; and Examined.

J. Walker, Esq.

996. *Chairman.*] ARE you a Director of Southwark Bridge?—I am.

997. Will you favour the Committee with such information as you have with regard to its financial condition; will you tell us what it cost?—I have a statement here of the exact cost, which I think you are asking for; and, with the permission

permission of the Committee, I will put the statement in. With regard to the tolls and expenses paid, the secretary has possessed himself of that information, and he will lay it before the Committee in a much more elaborate manner than I can do. This paper states the amount which has been raised, and the manner in which it has been expended, and the different classes of shares in the undertaking.

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998. The whole cost is 666,000 *l.*?—Yes, it is.

999. Mr. Alderman *Challis.*] Does it include the annuities?—Yes, it includes everything; there are no annuities.

1000. *Chairman.*] Do you think, if Southwark Bridge were thrown open, it would facilitate the traffic of the eastern part of the metropolis?—Decidedly. I do not think there can be two opinions upon the subject, that it would afford great relief to the traffic over London Bridge. Nobody in the City can keep an appointment with satisfaction to themselves, or make appointments with any degree of comfort to their business, on account of the crowded state of the City.

1001. You think that, by throwing open Southwark Bridge, the construction of another bridge in the locality would be rendered unnecessary?—I think it would be unnecessary; but there would then be considerable alterations required in the approaches.

1002. Sir *J. Shelley.*] Have you had any estimate formed of the cost of those alterations?—No; I am not aware what course the City of London will take; they have been in treaty for the bridge, but I do not know what course they will take.

1003. *Chairman.*] It is your opinion that, if this bridge were thrown open, the City would, in fact, have all the accommodation which is necessary?—Yes, if it were accompanied by an alteration in the approaches; they have a very fine street now from St. Paul's to London Bridge, but that gives no additional relief to London Bridge.

1004. Mr. *Wilkinson.*] The approach from Blackman-street to the bridge is pretty good?—Pretty good on the other side. You must get across Thames-street; and I have no doubt it would be necessary that an arch should be thrown over that street, as has been suggested before.

1005. That is necessary, in your opinion, in order to make the bridge what it should be?—I have studied it a good deal, but not as a practical man or an engineer, but merely as a matter of traffic.

1006. Mr. *Jackson.*] Then you would make the road almost level from Cheapside?—Not from Cheapside; it would not require to go nearly so high as Cheapside, nor yet as Cannon-street.

1007. About midway between the two?—Yes, between Cannon-street and the bridge.

1008. Have you ever had an estimate made of the cost of improving the approaches?—Never.

1009. The Bridge Company have never contemplated that course themselves?—No, they have not; their financial position has not been very satisfactory, and therefore they have not felt that it was within their power.

James Leith, Esq., called in; and Examined.

J. Leith, Esq

1010. *Chairman.*] ARE you the Secretary of the Southwark Bridge Company?—I am.

1011. Will you favour the Committee with what you know of its financial condition, revenue, and expenses?—It has been of a very varied nature, commencing with the time when old London Bridge was standing, and continuing during the progress and opening of the new London Bridge; the income was then very different from what it is now. Before the year 1831, when new London Bridge was opened, we had an income of 7,000 *l.*; in 1831 it was reduced to 6,800 *l.*; in 1832 to 4,544 *l.*; in 1833 to 4,528 *l.*; in 1834 to 3,983 *l.*

1012. Will you hand that in?—(*The same was delivered in*).

Vide Appendix, No. 5, (D.)

1013. What is the amount of expenditure?—I stated it in the Committee of 1836 at 1,200 *l.*, and we have made that a standard of our annual expenditure; in fact, we have been obliged to keep it at that amount. And with regard to the repair of the roads and such like, we have managed from one year to another to keep the bridge in very good repair. At the same time, the directors have never had any salary whatever; they never had a halfpenny for 40 years, nor even a cup of coffee.

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1014. Mr. *Jackson.*] What dividend has been paid on the shares?—Just one per cent., that is, 10 *s.* for each; they are only 50 *l.* shares, and a proportionate amount has been paid upon the 5,000 shares.

1015. The second issue of 5,000 get nothing?—Yes, they get a proportionate part; in fact, it was a sum raised of 150,000 *l.*

1016. And the old proprietors got nothing?—The old proprietors never had a halfpenny. The subscribers of 456,000 *l.* of it never received a halfpenny.

1017. What is the price of your shares?—There is no price; parties call upon me frequently with shares to sell or buy, and I have recommended them, under present circumstances, to do neither the one nor the other.

1018. Sir *J. Shelley.*] Would it not tend very much to depreciate the value of the property of Southwark Bridge, if a free bridge were to be made across the river from Doctors' Commons?—I do not think it would much affect it, for I think it is in such a situation, that ours is almost entirely the local traffic of the neighbourhood; it is now in such a state, that I can almost tell from the nature of the day what the tolls ought to be, without checking the amount.

1019. Mr. *Locke.*] Would the company feel any hesitation in testing what the bridge would do, by throwing it open for six months, reserving their right to take toll again?—There are various opinions upon that point; some people have gone so far as to say it would be better to throw it open, even if you got no remuneration for 12 months; others do not agree in that opinion. It is a mere matter of opinion; it has never been a deliberated question by directors or proprietors.

1020. Do you think the traffic would be increased until its capabilities are tested?—I have a document here which perhaps may throw light upon the capabilities of the bridge. The last time that London Bridge was repaired it was partially shut up, in order to repair one side while the other was going on. I have taken an estimate of the carriage tolls; our other tolls were very little affected by it; for each week there is a great regularity in the amount, and one would have thought, that having formed the habit of going that way, they would have continued it, but the fact is, that the very day that London Bridge was re-opened, the extra traffic ceased.

1021. What was the increase?—The increase was such as would have been equal to between 8,000 *l.* and 9,000 *l.* a year, consisting chiefly of the very heaviest class of waggons; we had four classes of waggons: thus, of the 2 *d.* class of waggons we had 3,764; of the 3 *d.* class, that is, with a horse extra, we had 3,616; of the 4 *d.*, 1,733; and of the highest class, 512; that has been uniform.

1022. Will you hand in the document you referred to just now?—I will. Here is also a statement of the total receipts, and the total amount of dividends paid since the building of the bridge. (*The same were handed in.*)

Vide Appendix, No. 5, (E.) (F.)

1023. Mr. *Wilkinson.*] At the time new London Bridge was built, then the bridge was entirely closed?—Yes, but old London Bridge was there.

1024. Was old London Bridge closed during the building of new London Bridge?—No, it was open for all classes of traffic during that period, but not equal to half the traffic.

1025. While new London Bridge was being built, you had 7,600 *l.* a year?—Yes.

1026. And it has fallen off since it opened?—It has gradually lessened. Another thing has affected us considerably, namely, the short omnibuses; many people from the Elephant and Castle, that used to come daily and pay the toll, can ride for a penny or twopence from the Elephant and Castle; that takes away a great portion of our traffic.

1027. Sir *J. Shelley.*] Supposing the bridge were made toll-free, can you form any opinion what the increase of traffic would be?—I think it would divide the traffic with London Bridge. I have stated that before, and I have had various conversations with Messrs. Chaplin & Horne. I believe the steepness of the gradient would not form any obstruction.

1028. Supposing that to be correct, in the event of your bridge being thrown open, and of its dividing the traffic equally with London Bridge, do you think that those two bridges would meet the demand?—It would relieve London Bridge.

1029. Do you think it would be as much as would be required, at any rate, at present?—I think so.

1030. Mr. Alderman *Cubitt.*] I think I understood your statement, that you had

had 1,700 *l.* a year to divide?—We have only 1,500 *l.*, the smallest dividend ever paid. *J. Leith*, Esq.

1031. The income is 2,900 *l.* and the outgoings 1,200 *l.*?—It is. But we allow a certain fixed dividend, and if we have more than that, we carry it on to next year, or we rather improve the bridge; or if there is any deficiency in the bridge, or approaches, we take the opportunity of remedying it as far as the surplus will permit. 23 May 1854.

John Pym, Esq., called in; and Examined.

1032. *Chairman.*] WILL you explain to the Committee the nature of your scheme for improving the thoroughfares of London?—I have here a paper containing a short description and estimate of my plan, which I will, with the permission of the Committee, hand in. *J. Pym*, Esq.

[*The same was delivered in; and is as follows:*]

METROPOLITAN SUPER-WAY.

The street traffic of the metropolis having outgrown the width and number of the thoroughfares, and it being evident that the new streets now in course of formation in the City will prove insufficient to meet the increasing traffic, I take leave to submit to your Committee a plan that would at once relieve the City, and its immediate environs, of the obstructions to which they are at present subjected, and prevent their recurrence in future, and in other respects be a great boon to the public.

I beg to state that the plan is not one now for the first time suggested, as in 1851 I submitted a similar one to Mr. Chaplin, and the directors of the South-western Railway, for the conveyance of their passengers from Waterloo Station to Cannon-street, in the City; but for reasons never stated it was not entertained.

The following is a rough outline of the Plan, which I designate

A Super-Way.

1. That a tubular way, similar to the Britannia Bridge on the Chester and Holyhead line, should be carried on columns of masonry from the South-eastern Railway Station at London Bridge across the Thames, to the stations of the Blackwall and Eastern Counties Railways. (*See* Plan No. 1.)

Then, a similar line westward from the Blackwall Station to St. Paul's, and on to Charing-cross. Next a line west from Bishopsgate-street, near the Eastern Counties Station, to Holborn Bridge, up Holborn to Tottenham Court-road. A third line from the London Bridge Station, westward, to the Waterloo Station, on to Westminster; with one or more additional cross lines to unite the east and west lines at several points, say between Blackfriars and Waterloo Bridges to Holborn, and another from Westminster to Charing-cross, thence to the junction of Oxford-street and Tottenham Court-road, with branch lines to the Elephant and Castle, to Whitechapel Church, to Shoreditch Church, to the Angel, Islington, to King's Cross, to Euston-square, to Lambeth, and to such other points in the principal thoroughfares as may be found desirable. (*See* dotted line, Plan 4.)

Vide Plan (II.) at the end.

Vide Plan (V.) at the end.

2. That this tubular way should be carried on columns of masonry, sufficiently high to pass over the tops of the houses, or other buildings along the line, without injury to the property beneath, except the space required for the columns; the lines to be in the rear of the principal streets. (*See* Plan No. 2.)

Vide Plan (III.) at the end.

3. That the tube should be wide enough for a double line of railway, and the carriages or trains to be of light construction, and propelled by a stationary engine or magnetic power.

4. That stations be established at all the principal cross streets, and at the termini and junctions of the Super-way.

5. That to save the passengers the inconvenience of ascending to and descending from the Super-way, they should be raised and lowered in chambers by the aid of machinery.

6. That a train of carriages should be passing up and down the lines without intermission; or, at the furthest, every five minutes.

7. That the lines should be open from six in the morning until ten at night.

8. That there should be first and second class carriages, fares, 3*d.* and 1*d.*, for all distances.

By a careful selection of the lines, none of the present thoroughfares or public buildings need be interfered with. The length of each tube, from column to column, would vary with circumstances from 200 feet to 300 feet, making about 20 columns per mile. The latter length of tube, with two columns, would take it across the Thames; one length would cross the widest thoroughfare, without interfering with the houses on either side of a street. (*See* Plans 2 and 3.)

Vide Plans (III. & IV.) at the end.

J. Pym, Esq.

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Instead of raising the tubes after being made, as was done in the erection of the Britannia Bridge, they may be built from column to column as the line progressed; this would greatly lessen the time and labour required in the construction of the line.

The tube would be lighted by ornamental windows on each side, and by gas by night, and warmed and ventilated according to the season of the year.

Passengers would be conveyed to or from London Bridge to Oxford-street, or along any other part of the line, in one-third of the time at present occupied.

Some of the advantages of this undertaking would be as follows:

1. That the thoroughfares from Charing-cross and Oxford-street to the Bank, Cornhill, Fenchurch-street, and London Bridge, would be cleared of full three-fourths of the present number of omnibuses and cabs, and one-third of its foot-passengers.

2. That the public would have a sheltered and speedy conveyance, without interruption by fog or snow, from one point of the most crowded part of the metropolis to another, at a charge of 1 *d.*

3. That by using the stations of the Super-way as receiving houses, or sub-post offices, the efficiency of the General Post-office would be greatly extended.

4. That by uniting, in such a manner as here proposed, the metropolitan termini of all the railways, the net-work of our railway system would be complete; as every line of railway would be accessible from any point of the metropolis to which the Super-way extended, and every resident within its limits would have, as it were, a station for all the railways at his own door; and this great advantage would be secured without the nuisance of having a central station in or near the City, as contemplated. None of the projected railways would give facilities for reaching the Crystal Palace equal to the Super-way. Should it be necessary to buy the land and property along the whole line, it may be immediately resold at near its cost, as the Super-way would not deteriorate the property, but give additional value to all the property within its limits.

The columns would average about 65 feet in height. The tube would not be required to be half the weight of the Britannia Bridge tubing, as the trains need not be more than one-tenth of the weight of a railway passenger train, as the ponderous locomotive and tender would be dispensed with.

The length of the three east and west lines, and three cross lines, would be about 8 ½ miles, which would involve an outlay (including the purchase of land) of about 5,000,000 *l.*; but as much of the land purchased would resell for as much as it cost, the ultimate cost of the undertaking would not exceed 4,250,000 *l.*

This extent of Super-way would produce a revenue of 10,000 *l.* per week, or 520,000 *l.* per annum.

The wear and tear, and working cost of such a line, would not exceed 20 per cent. on the returns, which would leave a dividend of about 10 per cent. per annum, on an outlay of 4,250,000 *l.*

Believing that no argument is required to show the necessity of providing some remedy for the evils that arise from our over-crowded streets, I have refrained from doing more than simply describe a plan, and give an approximate estimate of the cost of carrying it out; confident that the whole work may be executed for less than the sum named, and within three years of its commencement.

John Pym.

Rough Estimate for Metropolitan Super-way per Mile.

	£.
20 Columns, or Piers of Brick-work, each 1,040 cubic yards, at per yard, 25*s.*	26,000
20 Tubes, 156 feet in circumference, $\frac{3}{16}$ to $\frac{1}{4}$ inch iron, say 600 tons (all included) at 30 *l.*	360,000
Land for Basement of Columns, say for each, 2,000 *l.*	40,000
Consideration to be paid to owners and occupiers for houses and property passed over, say 200 houses at 250 *l.*	50,000
Legal and Preliminary Expenses	24,000
Per mile £.	500,000
8 ½ Miles, at 500,000 *l.* per mile	4,250,000

PASSENGER TRAFFIC of the Metropolis.

J. Pym, Esq.

23 May 1854.

The Steam-boats above Bridge carry 11,000,000 passengers, annually, about		per day	32,000
The North London Railway		„	13,000
The Blackwall Railway		„	10,000
The Greenwich Railway		„	6,000
The Omnibuses carry		„	110,000
The Cabs carry		„	30,000
Private vehicles, (no return)	(estimated at)	„	5,000
Pedestrians who pass over the area of the proposed Super-way	„	„	250,000
Passengers arriving at, and departing from, the London Termini of the Great Trunk Lines of Railway	„	„	50,000
	TOTAL per day		506,000

ESTIMATED RETURN of Metropolitan Super-Way.

		£.
One-half of the above, say	50,000 Passengers daily, at 3*d.*	625
	200,000 - Ditto - - 1*d.*	833
	Would yield per day - - £.	1,458

Or, 10,206 *l.* per week.

John Pym.

Jovis, 15° *die Junii*, 1854.

MEMBERS PRESENT.

Mr. Oliveira.	Lord Robert Grosvenor
Mr. Wilkinson.	Sir James Duke.
Mr. Alderman Cubitt.	Mr. Jackson.
Mr. Pellatt.	Mr. Locke.
Lord Alfred Hervey.	Sir Benjamin Hall.

BENJAMIN OLIVEIRA, ESQ., IN THE CHAIR.

William Tite, Esq., called in; and Examined.

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1033. *Chairman.*] I BELIEVE you are very well acquainted with the state and condition of the bridges in the metropolis?—Yes, I think I am generally.

1034. Will you be so good as to state to the Committee whether, in your opinion, there are sufficient bridges for the traffic at present existing?—I think not. I think you want two more free bridges for the crowded part of the City. The defect might be diminished, doubtless, by the opening of Southwark Bridge; but still I think that there is a great want of communication between Southwark Bridge and Blackfriars. I should beg to propose a scheme, which I might illustrate by this plan (*producing the same*). This is a sheet of the Ordnance survey. This line of communication from Goswell-street and Aldersgate-street to the east end of St. Paul's, is the great line of communication from the North Western, the Great Western, and the Great Northern Railway termini. That small triangle is the piece of land at the east end of St. Paul's, which has been so much in discussion. Now, it appears to me that if you could continue that line from south to north by a new bridge, you would greatly relieve these crowded streets

Vide Plan (VI.) at the end.

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streets that pass east and west. This is, in truth, something like the plan which has been suggested in the City to the Corporation by Mr. Bennoch. I am not quite sure that it is quite identical with that plan, but it is probably formed upon the same principle. I think this suggestion might be carried out without any extravagant cost. I can state what would be the cost of the bridge, but not the cost of the approaches. In the plan which I produce to the Committee, the light-coloured part is the present street; the darker lines mark what will have to be bought for the purposes of the improvements. It appears to me that it is a very desirable line of communication; that it is extremely wanted, and would greatly relieve the traffic of the City. Another bridge might be placed somewhere about Essex-street; that perhaps is not so pressing a necessity. This bridge would start from the middle of the Strand. But though that plan has been often projected, it does not appear to me that the necessity for it is so great as for the improvement I mentioned first. It has been also suggested (I think an Act of Parliament was passed for the purpose) to make a bridge at the Horseferry-road. Probably the degree of convenience of these three schemes would be very much in the order in which they appear on the map; that is to say, the first is very much wanted; the second would be a great convenience; the third would be of third-rate convenience.

1035. Mr. *Pellatt.*] Do not you think that a bridge starting from Charing Cross would be a great convenience?—Yes, undoubtedly it would.

1036. Mr. *Wilkinson.*] Is not there a great amount of traffic there at present? There can be no doubt of it, but that is very much relieved by the foot-bridge which crosses the river at that point. If that foot-bridge could be turned into a carriage-bridge, as has already been projected, undoubtedly that should be done; but at all events, so far as it goes, it is a great relief, as every one knows that the traffic to the South Western Railway alone, with which I am well acquainted, is very great indeed.

1037. Mr. *Jackson.*] Do not you think that a street starting from Northumberland House, supposing the present chain-bridge were made into a carriage-bridge, would be a greater relief than a new bridge between Blackfriars and Waterloo?—I am a little doubtful of that, judging from all that one sees going on at present and likely to arise in future. There is a line of railway projected, and now in the House of Commons, and which probably will pass, which ends at the Post-office, and if that traffic is poured out in addition to what there is at present, I can hardly conceive how the communication will be carried on through those crowded thoroughfares east and west. The Committee will see marked on this map the great line of traffic from those three great railway termini at the north of London.

1038. Mr. *Pellatt.*] All this part you consider to be so much crowded now, that to have a new bridge in the direction of St. Paul's would be the first and most pressing want?—So it appears to me, from what I see; for just at this point the traffic turns one way to get to London Bridge and the other way to get to Blackfriars Bridge.

1039. Sir *J. Duke.*] That would relieve Blackfriars Bridge very much?—Yes, so it appears to me. Undoubtedly, if you could have all the three bridges which I suggest, they are all desirable; but, in looking at possibilities, you must simply look at what is most wanted, and it appears to me that this is the most wanted.

1040. Mr. *Jackson.*] If you were called upon, without reference to the cost of construction, to state what you thought necessary for this portion of the metropolis, would you consider that Charing Cross Bridge would give the accommodation to the public which is so much wanted?—Yes, I think I should.

1041. Mr. *Pellatt.*] Confining it to that?—Yes.

1042. Mr. *Jackson.*] In the event of all these bridges being thrown open, and paid for by the public, would you consider it advisable that the chain-bridge should be thrown open, and should become the property of the public with the other bridges?—Yes.

1043. Mr. *Pellatt.*] That you would consider as most important?—Yes.

1044. Mr. *Wilkinson.*] What is your opinion as to the importance of a road in that direction in connexion with any new bridges that may be made. You have on your plans a line in that direction, marked red?—That is the road that exists at present, though I propose to widen and improve it. It is now, I think, principally known as the Lower Marsh and the New Cut.

1045. Is

1045. Is it your opinion that the communication in that neighbourhood very much wants improving, and that such improvement must be taken into the question of accommodation?—There can be no doubt about it; it might very easily be done, as there is already a communication by means of Union-street.

1046. Mr. *Pellatt.*] Have you seen the Government plan for a road from Westminster Bridge to Blackfriars?—Yes, I have; it is Mr. Pennethorne's plan.

1047. That would be much more expensive than the one you suggest?—Yes; my plan is simply for improving what already exists; that is a plan for making an entirely new road.

1048. Have you made any estimate of the cost of the improvements which you suggest?—Yes; I have made a slight estimate of the cost of the bridges, with the assistance of a gentleman who is conversant with these matters. I believe that the bridge opposite Old Change might be built for about 200,000 *l.*, without the approaches; I believe that the bridge opposite Essex-street, which I propose to be a suspension-bridge, might be built for 150,000 *l.*; and that the bridge opposite the Horseferry-road would cost about 170,000 *l.*; that is the sum proposed.

1049. That being a suspension-bridge also?—No; the last would be a bridge of seven spans, of 130 feet each, upon the same principles as the bridge at the Old Change, with arches of stone. I think that that is a fair approximate estimate of the expense of the bridges; the approaches would form an independent estimate.

1050. Lord *R. Grosvenor.*] With regard to these particular bridges which you propose, you mentioned that the bridge that you considered most necessary was the bridge which corresponds to Aldersgate-street?—Yes.

1051. What is the inclination of the ground on the Surrey side of the bridge; is it very steep or not?—I apprehend that it must be very much like Southwark Bridge, because I do not think that the character of the ground changes much between the two sites; I think that you must pass Bankside by an arch, and then get into a varying level; I do not think you can get into the natural level of the land on that side; that would of course increase the expense of the approaches.

1052. That would be so far an objection to your scheme?—No; it does not appear to me that it would lead to any great inconvenience, because by the time you reach the inclination shown on the map, you would reach the natural level west of Bankside.

1053. With regard to the Middlesex side what will the gradient be?—I should apprehend that there would be no difficulty on the London side. Passing from the level of the land, the point in St. Paul's Churchyard of which I have spoken, I should think that we might get a reasonable gradient along the street leading to the bridge without any great difficulty.

1054. Would you make an arch over Thames-street?—I should not like to do that, if I could avoid it. There is the same inclination, and to a great extent there are the same natural circumstances, as on the Middlesex side of Southwark Bridge; and with regard to crossing Thames-street by an arch, there certainly would be some conveniences about it, because you can more readily maintain the north and south communication, and you would relieve Thames-street from all the traffic, which would pass clear over it. But, at the same time, the cost of the undertaking would be considerably enhanced by doing so, because it would be necessary to buy so much property on each side of the road.

1055. Is not it within your knowledge that carriers very much object to anything approaching to a steep gradient in the metropolis?—I have no doubt that it would be very desirable to avoid a steep gradient.

1056. Mr. *Locke.*] Do you recollect what the gradient is on Southwark Bridge?—No; the gradient down Queen-street is, I think, 1 in 40, or something near that; but I do not exactly know what it is. Without doubt, if you can encounter the expense which would be incurred by taking the bridge at the natural level of St. Paul's Churchyard, and carrying the road right across Thames-street, it would be a desirable thing in many points of view. I have perhaps taken too small a view of the importance of the improvements that are now contemplated. It would be perhaps better to propose to carry the bridge at the higher level, and try to obtain the means of doing so.

 1057. *Chairman.*]

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1057. *Chairman.*] With regard to the question of funds, how would you propose to provide the funds for these improvements?—I dare say that my opinion will be very unpopular, but I do not myself think that the coal duty operates unfairly; I think it is far better than a local rate. I do not know whether it is the opinion of the Committee, or of people generally, that these things ought to be done at the expense of the metropolis generally, but it is my opinion that the cost should be borne by a local charge, and I have never heard that the coal duty was very much objected to, as inconsistent with the principles of fair trade; it appears to me to be a very convenient way of raising a large sum of money; and inasmuch as I believe the coal duty is charged up to 1860, when it expires altogether, I think a small additional coal duty would be raised without much inconvenience.

1058. Mr. *Jackson.*] Is it not a great tax upon manufacturers?—I think generally that the great manufactories which are carried on in London would not be prevented from competition by having to pay a tax of 1*s.* 1*d.* in the chaldron.

1059. Must not a tax of 20 per cent. upon the coals used in the manufactories be of great importance?—The manufacturers must answer for themselves; but I think that the extremely skilled labour which you find in London is not so dependent upon the tax as that of another character. We get our cast iron from places where the iron and coal are found together. The better class of iron, and the cutlery and other articles of the same sort which are manufactured in London, obtain a price which I think would very well bear a tax; I do not see how the money could be obtained without some local charge. I think that such a tax, or a tax of the same sort, is open to no objection. I have a house in the West End, and also one in the City; and I know the local rates in both districts, and the local rates in the City are double those at the West End, rent for rent; they are felt to be very onerous, and any increase would produce great dissatisfaction. Now, the French system of paying an octroi is perfectly out of the question; and it also seems to me that a moderate duty of that kind must be far more fairly spread than anything else.

1060. Mr. *Wilkinson.*] In your opinion it would be quite fair that the area of any tax which may be imposed for the purpose should be co-extensive with the area of the coal tax?—I think so; I am obliged to go from my house in Lowndes-square to my place of business; now I could not reckon upon going within an hour, though only four miles, on account of the crowded state of the thoroughfares; and even supposing a gentleman whose business does not happen to be in the City, the convenience is as much to him as it would be to me; it is quite as fair that a man living in Lowndes-square should bear his part of the burden, as the man living within the 680 acres which are included in the City of London.

1061. It is not from any particular affection for the coal tax that you recommend it to be continued, but you think that the tax, whatever it is, should be laid over that area?—I think that there can be no more convenient mode of raising the money required for metropolitan improvements than that I propose; it does not appear to me to press heavily upon the trades which I am connected and acquainted with, and these from my professional engagements are very numerous.

1062. Mr. *Jackson.*] If any other tax is imposed, do you think the tax should be spread over the same area as the coal tax?—I do; I think it is a metropolitan question, and not a local one.

1063. *Chairman.*] Do you think that if the present toll-paying bridges were thrown open, that would relieve the metropolis a great deal?—It would have a very considerable effect upon it. With regard to Southwark Bridge, that is not to be compared with any other bridge at present. The opening of Southwark Bridge without doubt would be a great relief, for the impediment which the toll seems to cause to the communication across that bridge, notwithstanding the excessively crowded state of London Bridge, is very extraordinary; men do not use this bridge, because they have to pay 2*d.* in going over it.

1064. Mr. *Jackson.*] Is it not with many a question of time rather than a question of money?—I think not; you gain time by using this bridge. I constantly have to come to this house, or to this end of the town from the City, and I almost always go by this bridge because it is the nearest way, but still I do not find that the rest of the world imitates my example to any very great extent. I do not mean to say that the bridge is conveniently placed, but that you do not find

find that it is used even by gentlemen in cabs; they either go by Blackfriars Bridge, or, if they are a little further east, they take London Bridge.

1065. If Southwark Bridge were thrown open, it would be the interest of the cabmen to use it?—There can be no doubt of it.

1066. Lord *R. Grosvenor.*] Are the approaches to Southwark Bridge on the London side good?—I think in the main they are; they have been very much improved by the widening of Queen-street, and of the adjoining part of New Cannon-street leading to it, so that it is now far more convenient than it used to be. There is a good broad street starting from St. Paul's, and ending just at the foot of London Bridge on the London side; and then Queen-street is widened; so that, together with the access to Queen-street, the bridge is now very well off in that particular.

1067. Mr. *Wilkinson.*] Is not the gradient objectionably steep?—I dare say it is for the purposes of trade; I think that is very likely; but for light purposes I do not think the gradient is faulty.

1068. Mr. *Pellatt.*] Would not the present difficulty with regard to Southwark Bridge be, the difficulty of access on the Surrey side, which would involve the new road which you have mentioned?—Yes; if you travel on the Surrey side you are apt to get a little embarrassed.

1069. Mr. *Wilkinson.*] With regard to the crowded state of London Bridge, are you aware that there has been a project brought before this Committee for the purpose of putting a footpath outside?—I am.

1070. Will you give the Committee your opinion, as an architect, as to the desirableness of such an alteration. Will you tell us whether you think it would interfere with the bridge in an architectural point of view?—I think it would certainly interfere with the architectural propriety of the bridge; whether that is to be made to yield to the utility of the scheme may be a fair question; considering the massive character of the bridge, the present parapet is suitable to it; but supposing that to be taken away, and the footpath supported on brackets or cantalivers, the light parapet that must be substituted would have an unfortunate effect in an architectural point of view.

1071. Have you seen the proposed plan?—I have.

1072. Do you think that the bridge you have proposed in the line of Old Change and Aldersgate-street would relieve London Bridge to such a degree, as to render any further alteration unnecessary?—I do not.

1073. Do you think that the improvement that would most conduce to that end would be the opening of Southwark Bridge?—Yes; the opening of Southwark Bridge has been a favourite object of mine; at one time, I think it might have been done without any expense to the public, but unhappily the Corporation of London considered that it was its duty to oppose it, and that led to the abandonment of the scheme at that time, which was when it was brought forward by the North Kent Railway and strongly supported; it was proposed to bring the railway across the bridge, and make the terminus at the bottom of Queen-street; the railway company agreed to buy the bridge for 300,000 *l.* if the Corporation would let them come into the City, and to open half of the bridge to the public for nothing; they made that proposal to the Corporation of London, but the Corporation of London considered that the bringing the terminus there would lead to much greater evils than the opening of the bridge would produce advantage, and they refused it, and instructed their officers to oppose that part of the Bill; the consequence was, that the project assumed the shape of a line from the back of Union-street to North Kent, and it appeared to me that this incidental opposition defeated the scheme altogether; at the time there was a good deal of alarm expressed at the prospect of having a road bridge by the side of a railway bridge; that alarm was not well founded. There is a bridge of precisely the same kind in Dresden, which was built expressly upon that very condition, viz. that half should be used for the railway, and half for the ordinary purposes of the City; there was before that an old bridge at Dresden, and this added a second, and I can speak from my experience at that bridge; I passed in a carriage, and everything seemed to be so arranged, that although the railway trains were passing constantly with the carriages, I saw no frightening of horses, or anything of the sort.

1074. Mr. *Locke.*] Did you travel across that bridge whilst there was a train coming?—Constantly, with a common hired carriage of the city. There is

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nothing in the world but a light iron railing between the one and the other. I would have brought a drawing of it if it had occurred to me.

1075. Lord *R. Grosvenor.*] Do you make due allowance for the difference between the German and the English horse?—I introduce that as an instance of something which has been actually done, which I met with to my exceeding surprise and great gratification, because I have considered that in many places (Newcastle is a case in point), if you could have united the two things, namely, a carriage bridge and a railway bridge, you might have made the bridge at a less cost; and in many other cases there is no doubt that the same thing might have been done. At Lancaster, for example, if the bridge could have been a railway bridge and a road bridge, it would have been of great use to the public.

1076. Mr. *Wilkinson.*] Is it not the fact that at London Bridge the carriages are standing there constantly when the engines are coming to the station?—Yes. I brought forward the case of Dresden, because it is a small and crowded city, and I thought it very much in point upon that subject.

1077. Mr. *Jackson.*] How long has it been finished?—I should think it has been finished about five years. If the Committee sits again, I will bring you a bird's-eye view of it, which will show the bridge and the line of railway upon it.

1078. You are strongly of opinion that the necessity of the City calls for immediate changes and improvements with regard to the bridges of the metropolis?—I am; and I think the first thing to be done is without doubt to open Southwark Bridge. I think that would do a great deal. If you were to do anything further, my own impression is that ought to be done in the way which I have suggested.

1079. *Chairman.*] Are you of opinion that the cost and expense for the execution of your scheme should be borne by a rate extending over the area of the coal tax?—I think it should be done by some contribution extending over an area as large as that of the coal tax.

1080. Lord *R. Grosvenor.*] Do you think that at present, supposing the whole of London to be under one municipality, which had the power of rating some district for the purpose of metropolitan improvements, they would be justified in the present state of affairs, provided Southwark Bridge were thrown open, in going to the expense of an additional bridge, such as you have suggested, connected with Aldersgate-street?—I should think so. But still, if one could take one step first, and perceive what the result of the opening of Southwark Bridge would be with regard, particularly, to relieving London Bridge, I think that step should be taken and its effect ascertained before anybody was taxed unnecessarily. I would wait to see if this railway terminus, which is talked of at the Post-office, is to be made or not. My impression is, that if the communication between the Great Western, and probably the North Western and the Great Northern, is to come into the neighbourhood of the Post-office, the inconvenience will be extremely great, unless there is some means of getting rid of the passengers. When I consider the character of the passengers who would be brought here, and turned out at this point at the rate (as they speak of trains every five minutes) of perhaps 20,000 people a day, I think the inconvenience would be excessive, unless there were some direct north and south communication. I think, therefore, that I would rather wait. If I had the power and means, I would open Southwark Bridge, and then see what is the effect of that as regards further improvement.

1081. *Chairman.*] It is the opinion of a great number of persons, that the readiest way to relieve the present leading communications of London would be to throw open the toll-bridges, and to make good communications between those bridges on the Surrey side, and the great thoroughfares leading to the railway termini on the south side of the river, by improving the communications in the Lambeth and Southwark districts; is that your opinion?—Decidedly.

1082. You have spoken about the coal tax; as far as your experience in the City goes, do you find that the coal duty is objected to. Have you considered the subject, as to what the extent of area should be over which that tax should be levied?—I do not know what extent that is. I have an impression that it is coincident with the extent of the Metropolitan Sewers Act, but I am not quite sure.

1083. Have you considered the question at all with a view to giving an opinion

opinion as to what the extent of it should be?—No, I am not quite conversant with it, because I do not quite know how the tax is collected. I recollect hearing incidentally that there is a toll taken at Watford, and therefore having that fact in my memory, I should say that I do not certainly think that the tax should be spread over a district so extensive as to reach to Watford.

1084. You have not considered the question?—As regards the extreme extent of it, I have not. When I gave my former answer, I had in my mind what would probably be the extent of the metropolis under the Building Act; but the question which has just been put has led me to recollect the fact that there is a tax paid at Watford, and that induces me to qualify my answer.

1085. Mr. *Jackson.*] Do you know what distance Croydon is from London?—Yes.

1086. I believe it is a fact that many gentlemen residing in Croydon come up to London every day?—Yes.

1087. Do not you think that that district should be within the area of taxation, seeing that the gentlemen who live there cross London Bridge twice a day?—It would seem to be reasonable, certainly.

1088. All the suburban districts round London have access to their places of business?—Not to the same extent; it is the case at Croydon, but on the Watford side of the City it is not so to the same extent.

1089. You are aware that there is a large amount of building going on in that neighbourhood?—I know something about the speculation at Harrow, but I do not think it will go on very fast.

1090. Mr. *Wilkinson.*] Considering the great increase of the means of conveyance by railway from the metropolis, and the increased habit of persons carrying on business in London, living within 20 miles of London, are you still of opinion that 20 miles would be too large?—Yes, I think it is.

1091. Mr. *Locke.*] Are you aware what the extent of the coal tax ought to be in order to pay the cost of the improvements which you have suggested?—A very small tax would be sufficient, but I really do not know the exact amount; I have been told that if the coal tax could be continued one year longer the land at St. Paul's, that I have spoken of, could be secured to the public. Now that is valued on all hands at 60,000*l.*; I think, therefore, that if that is so, a very much smaller tax than 13*d.*, continued after the tax ceases to be raised, would provide a large sum of money, particularly with the increase of London in all directions.

1092. Mr. *J. Duke.*] Does not the tax produce 80,000*l.* a year?—I really do not know; I only know that we are told that if we can induce the Government to give us the tax for one year, that piece of land may be secured.

1093. *Chairman.*] Are you acquainted with the state of the bridges of the metropolis, as to their solidity?—I am. I am a good deal acquainted with Blackfriars Bridge, because I was a member of the Corporation of London when they undertook to repair it, and I think a very large sum of money was spent upon it under Mr. James Walker. I then saw it as a member of the committee, and I know pretty well its condition. I also know its history from the fact of Mr. Mylne, who built it, being a very eminent architect, and from the circumstances of its erection being curious. I was concerned also with London Bridge, and I knew every step of the work. I was concerned also in estimating the cost of it; so that in this way I became very much acquainted with the circumstances of the bridges, and the mode of their construction.

1094. Mr. *Locke.*] What is the state of Blackfriars Bridge?—It is, I should suppose, altogether supported by the scaffolding. I should suppose it would fall into the river if the centres were removed.

1095. Was the centre placed upon any additional piles, or upon the old foundation?—I presume that it was placed upon additional piles. I can hardly conceive that any one would be guilty of the folly of resting it upon the old foundation.

1096. The piles obstruct the navigation of the river?—Very much indeed. The change which has taken place in the bed of the river is still going on, and I think that it has not been looked upon in a view wide enough. For example, the pulling down of Westminster Bridge, which is to be rebuilt, will affect the matter. They are going to put a bridge with five arches, instead of one with a great many. Then, no doubt, the water will flow upwards with greater violence. The French have had a case of this kind at Tours, where they have met the

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difficulty, to a very great extent, and their plan would apply, so far as I know, to this river; there the river was changing very much indeed, and the bridge became dangerous; but they have maintained the bed of the river by putting a dam across it, so as to maintain the bottom or floor of the river at that point at one uniform level. I do not mention this as a suggestion of my own. But a gentleman of the name of Mr. Burnell presented a memorial upon this subject to the City authorities which I thought of sufficient importance to advocate so far as I could. In it he shows what has been done at Tours; and he believes that if what he suggests had been done (and I am much of his opinion) it would have allowed of the repair of the bridges, and kept the bed of the river in its present state. He would be prepared to explain the matter himself better than I can do it; but in the meantime I may say that he would maintain the bed of the river by putting a dam across it, as was done by the French engineers; the upper level thereby remaining unchanged.

1097. Would not that prevent any scouring of the river itself?—It does not appear to me that it would produce any inconvenience.

1098. Are you aware whether the river down to London Bridge has been improved by the rebuilding of London Bridge?—Very greatly indeed.

1099. Your dam would keep the river up much in the same way as old London Bridge did?—London Bridge was a dam which kept the river up; that being removed, all circumstances combined to open the stream, and to prevent the destruction of Blackfriars Bridge and Westminster Bridge this suggestion was offered.

1100. Mr. *Wilkinson.*] I suppose you are aware that some plans are before Parliament for the purpose of taking the sewage of the City of London into the river?—Yes, I am.

1101. It would be materially decreased by that plan?—Yes, it would. There is also a scheme for making an embankment along the side of the river, which would have that result; but if this were done in conjunction with them, I do not think that result would follow.

1102. Mr. *Jackson.*] Would not an impediment to the flow of the tide be an injury to the navigation of the river?—Yes, if there were an impediment.

1103. Would not this dam be an impediment?—I think not, if it simply maintained the bed of the river.

1104. It would modify the action of the tide?—Yes.

1105. There is no flow of tide at Tours, is there?—No; but the river there is subject to violent floods.

1106. Mr. *Pellatt.*] Would not this dam create a fall in the river?—No, certainly not; that point was raised, and that point was met. There was no fall at Tours in the time of the floods.

1107. Lord *R. Grosvenor.*] As a gentleman of great eminence in your profession, you have mentioned that your opinion was favourable to a dam; the Committee would be glad if you would state your reasons for entertaining such an opinion, because the Committee consider that such a dam would injure the flow of the tide of the river, and be exceedingly prejudicial to the navigation?—The best answer that I could give to that question would be to read some portions of this report by Mr. Burnell. I ask attention to it, because it appeared to me that he had met in this report the objections that have been just suggested. He shows that it would not produce that effect upon the tide which is apprehended, but that it would maintain the level of the bed of the river unchanged, let the bridges be changed in any manner you please. The case that was quoted as to Tours is certainly not quite applicable with respect to the tide, but it is entirely so with respect to the violent floods which come to the river, and it is not alleged, as I understand or found to be the fact, that the descending waters have any violent fall at that point.

1108. Does not the placing of a dam involve the retaining a certain portion of the ebbing water which would otherwise flow into the sea?—In my judgment the dam proposed would not. The interference with the water caused by old London Bridge was very great indeed; it was a dam not only of height, but it was a dam covering probably more than one-third of the surface of the river; at all times of the tide the ascending and the descending tides contended; the tide below the bridge could not flow up, and the tide above could not escape, through the arches; but when the bridge was taken down, the two things coincided and the fall disappeared.

1109. Was

1109. Was not the great number of arches in that bridge the reason why the tide did not flow properly, but flowed more rapidly than it now flows?—Certainly.

1110. The tide having less impediment scours upwards, the water going towards the ascent with a greater scouring power; is not that an effect for improving navigation purposes?—With regard to the water flowing up the river, the change that has taken place has been of that character, but the mischievous change that has taken place has been the washing away of the bed of the river.

1111. If the water below the bridges were of a greater quantity, you can get a greater scouring force, which would go to improve the navigation below the bridges; but if you do anything which would prevent the fresh water from coming down, that would hinder the navigation below the bridges?—Those are abstract principles which cannot be denied, but the interference with the navigation is a question of degree.

1112. Mr. *Jackson.*] Of course you will admit that the first and most serious matter is to keep the navigation free?—There can be no doubt of it; and if this suggestion would have the effect of interfering with that, of course it ought to be absolutely negatived at once upon the abstract principle.

1113. Mr. *Wilkinson.*] Is not it the fact that the bed of the river was never so frequently dry in the time of the old London Bridge as it is now?—There can be no doubt of that.

1114. And therefore these difficulties with regard to the navigation above the bridge at any rate were never so great as they are now?—There is great difficulty in the navigation at present above the bridge, and with regard to the navigation below the bridge, it is quite independent of the quantity of water which is poured out. I may explain to the Committee that I know a good deal of the wharves between London Bridge and the Tower; my experience has led me to consider a great deal of the scouring power on the Fresh Wharf (Adelaide Wharf, London Bridge, which is the name by which it is better known); I know this, that at the time when I built that great wharf there, there was about 16 feet of water in the ordinary tide, and I know that there is now not more than 12.

1115. Mr. *Jackson.*] What is it at spring tide?—I cannot tell, but I know this, that at those wharves where a large amount of water is required at all times of the tide in order to enable the great steamers which come up the river to swing round, they cannot maintain it without a constant system of dredging; that was not the case at the time when the old London Bridge was in existence.

1116. Would not the old London Bridge have had the effect of keeping in suspension a large quantity of water that would otherwise act as a scouring power to that particular portion of the river?—I should think so.

1117. Is not it the fact that a large body of water used to go through the arch and scour it out?—There was a fall at old London Bridge, which I have seen amounting to as much as six feet.

1118. Lord *R. Grosvenor.*] Do not you think that that will account for the facts that you have stated?—I do not think that accounts for them, because at the corner the line of the wharf is at the land pier of the bridge.

1119. Mr. *Locke.*] Has there not been a diminution of water to the extent of four feet below the high-water mark at London Bridge since the building of the new structure?—There has; I cannot account for it, but I know the fact.

1120. Mr. *Wilkinson.*] Was not that expected before, at the time of the old bridge, that it was possible that the tide would operate with great force upon the bed of the river?—That does not account for the change at this place.

1121. Mr. *Locke.*] Will you mention to the Committee to what extent on the other side of the bridge you find this statement to hold good?—I know of its existence as far as the Tower.

1122. At a distance of about half a mile?—That is, 2,400 feet.

1123. It is your opinion that any scour passing from London Bridge would not affect the river to so great a distance as that?—I think not, nor did it at the time I am speaking of; there was then a large pier which stood out before it and protected it from the immediate action of the water, but it was one of those anomalies which have happened since London Bridge has been removed. The most extraordinary events have taken place, some of which are quite incomprehensible.

1124. Have there not been other changes on the banks of the Thames, which may have aided in producing this result?—There may have been such, but it

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appears to me that the scour has been rather in the centre of the river than on the banks; that it has affected the centre and left the shores, and, as far as my experience goes in this case, I think that the making of this dam would tend to maintain the uniformity of level, not to put an obstruction and prevent the action of the scour.

1125. Lord *R. Grosvenor.*] Besides the great effect which was predicted at the time of the building of old London Bridge by those who had given their attention to the matter, namely, the deepening of the channel of the river above bridge, did not they predict that it would be attended with the danger to the bridges that has actually come to pass?—I am not quite sure of that. I remember Mr. Telford's report about it, which he made at the time, and I know that he suggested that the tide would flow higher and ebb out quicker than it had done before; but I do not think there was any supposition at the time that the bed of the river would be changed so as to lay bare the foundations of the bridge.

1126. Looking at the matter now, you do not think it at all unnatural that such things should have happened?—I am quite unable to answer that question; I must confess that there are some things which appear to me matters of extreme difficulty, about which I should say that one sees them, and therefore it must be so; but how they have happened, I cannot tell; there is an exceedingly great inequality in the character of the bed of the river; I have met with a seam of gravel so hardened apparently by the percolation of iron as to present a very considerable obstacle to the workmen's tools; this exists in the bed of the river (wherever it does exist) above the bed of clay; I made this discovery in building the wharf of which I have spoken. The existence of a hard bed of stone in the bed of the river upon a bed of clay, appears to me to be a more likely reason for the irregularity of the alterations that have taken place, than the suggestion of the mere removal of the bridge changing the character of the river.

1127. We are desired to examine and to report to the House upon the state of the bridges, which of course must depend upon the state of the river. Do you think that we ought to examine into the question of this dam?—I would just ask the Committee to do this. The gentleman who projected this plan is in the room at my instance, and I think it would be convenient, as he prepared this report, and has informed himself of all the circumstances, that he should explain the matter himself; you would then in a few minutes see if you think that the facts which he has gathered together can support his theory. He is an engineer by profession, which I am not, and I only know him to be a man of talent, who has paid particular attention to matters of this kind; he drew up a memorial which I felt to be worthy of notice, as it met a great difficulty, and I got it considered by the Navigation Committee; but I do not know what they have done with it; perhaps they have other business to attend to. If you think it desirable to pursue the investigation, you have the means of doing so.

1128. Although you are not an engineer, you have been so much concerned with works on the banks of the river that you have a considerable knowledge of its state?—I have.

1129. Is it your opinion that changes have taken place in the current of the river, by which the position of several of the bridges has become very precarious?—There can be no doubt of it.

Thomas Page, Esq., called in; and further Examined.

Thomas Page, Esq.

1130. *Chairman.*] I THINK you wish to give the Committee some further information?—I have drawn up this memorandum (*producing the same*), in the shape of a letter to yourself, which contains a suggestion for a bridge below London Bridge. I was asked by the Committee about the bridge opposite St. Paul's, and I had not then sufficiently considered the best mode of providing for the traffic; since that time I have taken into consideration the amount of traffic in the whole of the district east of London Bridge, which consists of about 16 square miles on each side of the river, and I have given my ideas in this memorandum for the information of the Committee. The bridge which I propose would cross the river at Irongate Stairs, below the tower, and would be of such a height as would not interfere with the navigation of the Pool.

Vide Appendix, No. 7.

1131. Mr. *Jackson.*] Are the approaches at that elevation?—The approaches on the Middlesex side would be made to Tower-hill; the street now leading to St. Katharine's

St. Katharine's Docks would be left open and the bridge road carried over it; on the Surrey side, in consequence of the lower level of the ground on that side, the approaches would have to be elongated; this elevation (*producing the same*) will show the plan that I propose.

Vide Plan (VII.), No. 1, at the end.

1132. The width of the river there is not greater or so great as at some portions of the Thames above London Bridge?—No, it is 840 feet.

1133. You propose that it shall be a carriage bridge, of course?—A carriage bridge.

1134. Mr. *Jackson.*] What is the height of it to be?—Seventy feet above high water; I have ascertained by inquiry that all vessels which now come above St. Katharine's Docks would be able to pass under such a bridge by striking their topmasts. I have brought this view of the bridge over the River Dordogne, at Cubsac, near Bordeaux (*producing the same*), in order to show that the bridge which I suggest near the Tower is nothing in magnitude compared with the Cubsac bridge. The bridge which I propose is marked in red on this view, and is not much more than half the length of this great bridge which has been executed in France, while the approaches to the bridge at the Tower would be also less than the approaches to this French bridge.

Vide Plan (VII.), No. 2, at the end.

1135. What is the height of this bridge?—The height of the French bridge is 23 feet above that which I propose. It is 93 feet above the water.

1136. Sir *J. Duke.*] Is your bridge an iron bridge?—An iron suspension bridge.

1137. Mr. *Locke.*] What is the breadth of the span?—Eight hundred feet.

1138. How much is that more than Hungerford?—It is not quite 200 feet; the span of Hungerford is 636 feet.

1139. Mr. *Wilkinson.*] How far below London Bridge would it be?—Three thousand feet exactly.

1140. It is near the Pool?—Yes; I have said in this memorandum that I do not think London Bridge would be much relieved by any bridge above London Bridge, because it is impossible that any part of this great traffic, extending over miles to the east on each side of the river, and to an unlimited extent north and south, would encounter the crowded thoroughfares of the City, in order to pass over any bridge above London Bridge.

1141. Mr. *Locke.*] Do you think that the traffic is very considerable?—I think it is.

1142. Do you think that the ferries at this moment carry off a considerable amount of that?—The ferries take the foot traffic, but the carriage traffic is altogether unprovided for. The Thames Tunnel takes about a million and a quarter of passengers yearly.

1143. How far is the Thames Tunnel below the site of the bridge which you propose?—It is nearly one mile and a half from London Bridge; it is about 5,000 feet below this proposed site.

1144. Have you made any estimate of the cost of it?—I have taken the prices which we are paying for the Chelsea Bridge, and I find that a bridge 50 feet in width, with its approaches, but not including any purchase of property, would come to something less than 450,000 *l.*

1145. Do you mean to say that the bridge would have a 50-feet carriage way?—No; the width of the bridge would be 50 feet, including the footways; that is three feet and a half narrower than London Bridge.

1146. Mr. *Locke.*] What is the span of the largest opening?—Eight hundred and fifty feet.

1147. Is that the same as the chain-bridge at Charing Cross?—It is 125 feet more. It is a less span than the suspension-bridge at Fribourg in Switzerland.

1148. Lord *R. Grosvenor.*] Are there not great natural advantages in the foundation of the bridge at Fribourg?—It passes between two very steep banks, but the foundations of its piers are carried down to the river.

1149. It is on rock on both sides?—It appeared to me so.

1150. Is that a great advantage?—It is a great advantage to have the foundations upon rock.

1151. Does not it save expense?—Yes, certainly; it saves the expense of forming a foundation by piling and concrete, as in bridges on the Thames.

1152. And contributes to the stability of the bridge?—It does.

1153. The same is the case with the Menai Bridge?—Yes.

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1154. There would be no difficulty in getting foundations for the bridge?—None whatever; the banks of the river are only a few feet above the level of high water; but good foundations can be obtained by piling, and the bridge can be constructed without encumbering the river at all. The gradient of the approaches which I have taken is one in 40.

1155. *Chairman.*] How far is it from the edge of the river to the point where you reach the surface of the ground on the Surrey side?—Two thousand four hundred feet.

1156. That is half a mile?—Nearly so. I propose to divide the Surrey approach into two roads; viz., the direct road, to its intersection with the Greenwich railway, and two roads branching off from it to the east and west.

1157. Mr. *Jackson.*] From what you know of instances in which bridges have been built 100 feet high, can you inform the Committee what would be the increased cost of making the bridge 100 feet high?—Not at this moment. The expense would consist in the additional 30 feet in height of the piers, and in lengthening the approaches 1,200 feet on each side, which, on the Middlesex side, would render the approach impracticable at 1 in 40.

1158. Mr. *Locke.*] Does the bridge reach the surface of the ground by the time it reaches the South Eastern Railway?—No.

1159. At what elevation would the road be when it arrives at its intersection with the South Eastern Railway?—About 15 feet above the level of the railway.

1160. You come under the railway I suppose?—The diverging lines of road would pass under the railway, but a direct line of road could be carried over it. The bridge would form a direct communication between the South Eastern and North Eastern Railways, as its Middlesex approach is close to the Blackwall Railway at the Minories.

1161. Lord *R. Grosvenor.*] Would not the value of the bridge to the surrounding neighbourhood be diminished by the height at which it passes?—I think it would be compensated for by an easy gradient; it is an objection for foot passengers, but not such an objection as a steep gradient would be for carriage traffic.

1162. Would there not be some inconvenience from the fact that people would not be able to get upon the bridge though it immediately adjoined their houses?—There would be steps for foot passengers.

1163. But carriages would have to make a considerable circuit in order to arrive at the foot of the bridge?—Yes, those from warehouses adjoining the river must make a circuit, but those for through traffic would not.

1164. Mr. *Locke.*] You propose that your bridge should be 70 feet above the high-water mark?—Yes.

1165. Have you consulted the proper authorities with reference to the admission of a bridge of such a height across the Thames?—I have not consulted any authority; I have spoken to Mr. Wilkin, deputy chairman of the General Steam Navigation Company, to satisfy him that the height would be sufficient for the class of ships that pass above St. Katharine's.

1166. Are you aware that the Admiralty have objected to a height of that kind for the navigable rivers which they have had to do with?—I do not call an instance to mind just now, but that is my impression.

1167. Mr. *Jackson.*] Are you aware whether the Admiralty have not always required the height of the bridges over navigable rivers to be 100 feet?—I have heard that stated.

1168. Have they done so even with regard to bridges crossing canals?—They may have done so, but I should think that, considering the navigation as it now exists, if a metropolitan bridge provided for it, the Admiralty would not insist upon an elevation which would be a serious objection to the land traffic, and would consequently be injurious to the public.

1169. Do you see any engineering difficulty in raising the bridge 100 feet?—There would be no engineering difficulty, but it would involve considerable expense.

1170. Will you hand in your memorial, and the papers connected with it?—(*The same were handed in.*)

John Williams, Esq., called in; and Examined.

1171. *Chairman.*] I BELIEVE you are a Director of Vauxhall Bridge?—I am.

1172. Will you be so good as to tell the Committee what its present condition is?—The bridge has been examined lately by a professional man, indeed by Mr. Walker, who was the designer of the bridge, and his report was a perfectly favourable one, and that report, I think, could not be confirmed by better evidence, or by anything that I could say, than it is by the fact that Mr. Walker is himself a holder of 174 shares in the bridge, and has been so, I think, for many years past.

1173. Do the receipts from Vauxhall Bridge pay the proprietors a good rate of interest?—Not the original proprietors.

1174. Can you favour the Committee with any statement as to the financial position of the bridge?—The original cost of the bridge does not appear from the accounts which I have looked into, with the assistance of the clerk to the company. The cost of the bridge and the approaches have not been kept so distinct that I can tell you exactly what the bridge cost, but the bridge and approaches together cost about 300,000*l.*, exclusive of about 70,000*l.* for Parliamentary and legal expenses, conveyancing, &c., making the whole cost of the undertaking about 370,000*l.*

1175. What are the annual expenses of keeping the bridge in repair?—About 2,200*l.* or 2,300*l.* a year.

1176. What are the gross receipts of the company?—The gross receipts for the seven best consecutive years have been about 12,700*l.* per annum.

1177. What years were they?—They were the last years before the station of the South Western was removed from Nine Elms to the Waterloo-road.

1178. Mr. *Jackson.*] How many shares have you in the capital of the company?—I think we have 5,800.

1179. What is the nominal value of those?—£. 64.

1180. What dividend do you pay upon that 64*l.*?—The last year we paid 26*s.* a share.

1181. Is that the half-yearly or the yearly dividend?—The yearly dividend.

1182. What is the market price of your shares?—From 22*l.* to 24*l.*

1183. *Chairman.*] Would your proprietors be favourably disposed to a project for throwing the bridge open, if they received adequate compensation?—That would depend on the view taken of the future, rather than the present value of the tolls. The traffic is increasing every year, and promises very soon to reach the maximum of what it was before the railway terminus was moved. During one or two years, while the railway terminus was at Nine Elms, I think 2*l.* were divided per share.

1184. Lord *A. Hervey.*] Can you give the Committee the average receipts for the last seven years?—We have not taken it. The receipts for the last year were 11,000*l.*

1185. What were they the year before?—I cannot give you the year before that; but I have given the average receipts for the seven years before the railway terminus was moved.

1186. *Chairman.*] Do not you issue an annual report to the proprietors?—We do, stating the gross receipts and expenses.

1187. Will you favour the Committee with one of those reports?—I will furnish the Committee with that. I may say that the receipts from toll appear to have been gradually increasing at the rate of about 15*l.* a week. for four or five years last past.

1188. Will you favour the Committee with the report for the last year; and also with an account of the gross receipts for the last five years?—I will. The opening of the Crystal Palace we look forward to as a favourable turn in our affairs. I think Saturday was one of the best days on record.

1189. What did you receive on Saturday?—I think we received about 80*l.*

1190. Mr. *Jackson.*] Will you put in a statement showing the amount of your capital?—I will.

1191. Lord *A. Hervey.*] Is the company in debt?—We are in debt about 7,000*l.*

1192. Will you include that in your statement?—I will.

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1193. Mr. *Jackson.*] Have you made a report for the last year?—We have.

1194. Is there in the report a statement of the amount of obligations?—Precisely; it contains a statement of everything.

1195. Will you furnish the Committee with one of those reports?—I will.

Benjamin Worthy Horne, Esq., called in; and Examined.

B. W. Horne, Esq.

1196. *Chairman.*] I BELIEVE you can furnish the Committee with some valuable information with reference to the increasing traffic of London?—I can, more particularly with regard to that at Southwark Bridge; we are peculiarly situated there; because our business naturally is very extensive, and I suppose we take our fair share of the streets of London. We have within the last 12 months very considerably decreased our traffic through the City, with the exception of London Bridge; and London Bridge we now use more than we have ever done, and we shall use it a great deal more yet.

1197. Does that arise from the absence of toll there?—Of course, as far as possible, we avoid paying toll, inasmuch as we have three or four horses to each vehicle; and, therefore, it becomes expensive; but independently of that, we have recently opened a large establishment at Haydon-square, for the purpose of removing the business with the West End and Camden Town. The carts go to London Bridge, and then enter Tower-street, and find their way to the Minories; therefore, instead of going through the City, as we used to do, we now load and unload the goods direct to and from the North of England, to the extent of as much as 3,000 tons a week between ourselves and Pickford's & Co. With regard to the Borough business, instead of taking it, as we used do, a portion over Southwark Bridge, and a portion over Blackfriars Bridge to Camden Town, we now take it on to Haydon-square; therefore our business over London Bridge is increasing, and, of course, we find the inconvenience arising from the crowded state of that bridge.

1198. Mr. *Wilkinson.*] Would not it be a great relief if the traffic over London Bridge were less?—Of course, to have the traffic lessened would be a great advantage.

1199. *Chairman.*] Where would you suggest having another bridge?—None, but to throw the iron bridge open. When we had business greater than we now have, I endeavoured to get the tolls taken off Southwark Bridge, and in fact most of the South-western business used to go that way. We used to pay the toll in preference to going over Blackfriars or London Bridge, but of course those tolls amounted to so much, that whenever we could avoid it we did. All goods from the Borough that must go to the Great Western, to the Great Northern, and the other railroad, that is to say, the London and North-western, which is the most heavily loaded out of London, must cross the river; and it seems that the place to cross for this purpose is not over London Bridge, but over Blackfrairs or the iron bridge. I should say that the iron bridge would be the best bridge for that purpose. For, in the first place, if you came over the iron bridge to New Cannon-street, you would go straight up Aldersgate-street, and find a way to the Great Northern, and the North-western railroad, and so avoid Fleet-street, where there is a hill, and also Holborn-hill. Therefore I am an advocate for throwing open Southwark Bridge.

1200. Mr. *Jackson.*] Do you think that if that bridge were thrown open, the traffic would go over it, so as to relieve London Bridge?—I think a great amount of traffic would do so, but in particular the branch traffic to the south of London. Because, first of all, it is easy of access; and though the approaches are bad on the Surrey side, yet when you get over it that is not of much consequence.

1201. You are more an advocate for the opening of Southwark Bridge than for building a new one?—My opinion is, that if the bridge ran towards the Surrey side, south of the Borough, we should not use it at all; but if we could get down Queen-street, and over the iron bridge, everything out of Cheapside, which is almost the emporium of the City, the traffic would then come down over the iron bridge, through Southwark, to the South-western Railway and Borough.

1202. Do you think that a bridge three quarters of a mile from the present Southwark Bridge would be useful to that district?—We should use it in going from Bermondsey to the North-western Railway station.

1203. If that bridge were built three quarters of a mile below the present bridge,

bridge, you would use it for the purpose of taking traffic from Haydon-square?—Most certainly, and relieve London Bridge.

1204. If it is of great importance to you, would it not be equally important to every other person engaged in business to have an additional communication?—Yes, but not so important to others as to ourselves, because the nature of our business is this, we are general collectors. There is scarcely a tradesman who does his own carrying business. With regard to the goods that we take out of London, everything is done by ourselves; we carry them from merchant's door to merchant's door; there is no middle party.

1205. Mr. *Wilkinson.*] If a bridge were constructed near the Tower, it would be in a direct line from your house of business?—Precisely so.

1206. Would it not very much relieve your traffic which you bring over London Bridge?—Yes, as a matter of course. But then that is very peculiar, from the circumstance of our station being in the Minories.

1207. Is not there a large amount of traffic in that direction?—Yes; it would be the first station in London for business to and from the Borough and Bermondsey.

1208. Is it not very convenient for the traffic from the docks?—Yes, we have all the docks close to us.

1209. *Chairman.*] Do you think that the Thames Tunnel could be made of use in diminishing that excessive traffic over London Bridge?—No; I think it is too far up the river for that purpose. In our connexion we do not take solitary loads; but if we have half a ton or a ton to collect at one place, and the same at another, we take them, and go over London Bridge with a full load.

1210. Mr. *Jackson.*] Leaving your firm out of the question, and looking at it without reference to any particular cases, do you think that a bridge across the Thames at the Tower would be a great public convenience?—I do not think it would be so much so as the getting Southwark Bridge opened. We have another means of doing all the business that this bridge contemplates, which would quite supersede it.

1211. Then you are not of opinion that the same relief would be afforded by a bridge below London Bridge as by one above?—Nothing like it. The increase of the traffic from the south to the north, taking the railway communications, is immense, independently of those who are in the neighbourhood.

1212. Mr. *Pellatt.*] With regard to the business interest, should you think St. Paul's a good position for a bridge?—No, I do not think it would be.

1213. A bridge below London Bridge would be better than one above London Bridge?—For one portion of the traffic only. But a plan struck me, which I endeavoured to carry into execution some years ago. I suggested to the Southwark Bridge Company to let us have one year's trial, by throwing the bridge open. We offered to subscribe money for the purpose, just to show them the quantity of vehicles that would really go over it, because all the Surrey conveyances and carriages go to Gracechurch-street; whereas many of them going to the Exchange would go over this bridge if it were toll-free.

1214. Do you do much business on the south side of the bridges?—Yes.

1215. Do you find much impediment from the nature of the roads on the south side of Southwark Bridge?—Yes; we cannot go with any degree of certainty, but we are obliged to use it because we cannot take Blackfriars, and we cannot take London Bridge. Sitting as I do in my office, and looking at the street, I am often grieved to see so noble a street open, left open for hours together, without more than three, four, or half-a-dozen vehicles passing. I myself prefer to pay 2*d.* toll when I go to the Borough; by that means I save three or four minutes. And I certainly think that, if we could get an approach from about the Mansion House to Queen-street, to the iron bridge, with two pretty good roads, one to the left and another to the right, you would find the access to the South-western Railway, and Surrey district, and Borough, very much improved. At present you find that the omnibus to a particular train, for example, to the 5.35 train, starts from Gracechurch-street, over the iron bridge, at five o'clock in the afternoon, to catch the train. It chooses Southwark Bridge, because it cannot go by either of the other two bridges with any degree of certainty as to time.

Price Prichard Baly, Esq. called in; and further Examined.

P. R. Baly, Esq.

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1216. *Chairman.*] DO you wish to give the Committee any further evidence —I simply wish to give in some documents to illustrate the proposed alteration of Charing Cross Bridge into a carriage bridge.

1217. Will you hand them in?—(*The same were handed in.*)

Vide Appendix, No. 13; and Plans (VIII. to XI.) at the end.

Jovis, 22° *die Junii*, 1854.

MEMBERS PRESENT.

Mr. Oliveira.	Mr. Jackson.
Mr. Wilkinson.	Mr. Alderman Challis.
Lord Robert Grosvenor.	Lord Alfred Hervey.
Mr. Alderman Cubitt.	

BENJAMIN OLIVEIRA, Esq., in the Chair.

Mr. *John Guy*, called in; and Examined.

Mr. J. Guy.

22 June 1854.

1218. Lord *R. Grosvenor.*] WHERE do you live?—On the border of Bushey Park, at Hampton Wick.

1219. You are in the habit of making use of Hampton Court Bridge?—Yes, very much; but I make much more use of the other bridge in the neighbourhood, viz. Kingston Bridge; it is more in my way to London than the other; we cannot get away from Hampton Wick without crossing either Kingston Bridge or Hampton Court Bridge.

1220. Perhaps you can give the Committee some information with regard to both?—I know more of Kingston Bridge, but I can speak to both; Hampton Court Bridge was built under an Act of George the Second.

1221. With regard to Hampton Court Bridge, can you inform the Committee all the terms of the Act of Parliament under which it was built?—Yes; the Act was the 23d of George the Second, in 1749; I have here an extract from the clause as to the power of redemption of the Crown.

1222. Can you state to the Committee the privileges which were granted?—It was to one James Clarke, and his heirs and assigns, who was at that time the lessee of the manor of Moulsey, under the Crown.

1223. What did the Act of Parliament empower him to do?—To build the bridge, upon the condition that at the end of 26 years it should be redeemable by the Crown, or rather by his then Majesty, "his heirs and successors," on payment of the cost of the erection; I have in my hand an extract from the clause itself, which has been printed separately.

1224. *Chairman.*] Will you hand it in?—(*The same was delivered in.*)

Vide Appendix, No. 11.

1225. Lord *R. Grosvenor.*] Since that bridge was built, toll has been constantly taken upon it?—Constantly taken; and it is a very excessive toll; it is one of the largest upon the River Thames.

1226. Do foot passengers pay?—Yes, they pay each way.

1227. How much do they pay?—They only pay a halfpenny each way, but they pay double on Sunday; and a horse, or any animal, pays 2*d.* each way, and a vehicle of any kind, with one horse, pays 6*d.*

1228. In fact, they charge more at this bridge than you pay at Kingston?—Yes; nearly double or treble; and yet the revenue is less than half.

1229. Mr. *Wilkinson.*] Should you not rather say that in consequence of this difference the revenue is less than half?—Although the toll is more than double or treble, yet the produce of the toll is less by at least one-half.

1230. Lord *R. Grosvenor.*] Do you consider that the amount of toll turns away traffic from that bridge?—Yes, I am sure it does. I have known instances of people walking three miles round to avoid that toll.

1231. You have stated that in the original Act of Parliament, power was given to the Crown to put an end to the toll, by purchasing the bridge, on payment of the cost of the bridge. Do you know what the cost of the bridge was? —I do

—I do not; but I know what it was sold for about 25 years ago. It was purchased by the present proprietor about 25 years ago from the assignees of Mr. Clark for 7,000 *l.*

1232. It is a wooden bridge, is it not?—It is a wooden bridge, and very steep in the centre.

1233. Can you inform the Committee whether the Crown has ever made any offer to purchase the bridge?—No, I believe they never have. But the only title that the holders of the bridge have to a toll at all is by the Act of Parliament; and therefore they must have taken the bridge with notice of the right of the Crown to purchase at the original cost.

1234. You mean to say that the present purchaser purchased, knowing that the Crown has the power of redemption?—He must have done so, because he certainly had no other title than that given by the Act of Parliament.

1235. Can you inform the Committee in what state of repair the bridge is?—The bridge is considered in the neighbourhood to be very unsound.

1236. Do you know at all, of your own knowledge, that the bridge is in an unsound state?—I cannot say so from my own knowledge, I merely speak from report. I should not be able to tell, if I examined it, whether it was in a good state of repair or not. I dare say the surveyor will know more about it than I do.

1237. Mr. Alderman *Cubitt.*] Does the power of purchase to which you have alluded, still exist in the Crown?—Unquestionably; because since the title to the toll exists under the Act of Parliament, the purchaser would necessarily have notice of that clause, and must therefore be liable to the redemption.

1238. The Act of Parliament says that the bridge shall be liable to redemption at any time after the expiration of 26 years?—The words of the Act are, "at any time hereafter." The maxim *nullum tempus occurrit regi* would unquestionably apply, even if the statute did not give express power to the Crown to redeem the bridge at any future time.

1239. Mr. *Wilkinson.*] Does not the clause give to the Crown the power of redeeming the bridge upon paying all expenses, including the expenses of maintenance up to this time?—I believe that the purchaser would be very sorry to keep to the terms of the Act, for the produce has been much more than the interest and expenses.

1240. There is no provision in this clause that the produce should be deducted. It says that his Majesty shall have the power of redeeming the bridge upon paying "all such sum and sums of money as he and they shall have advanced, paid, and expended for and upon account of the procuring and passing of this Act, and for and upon account of erecting, maintaining, and supporting the said bridge, and preserving and improving the said navigation, and all such sum and sums of money as he and they shall have advanced, paid, and expended for and upon account of the purchase of any lands, tenements, or hereditaments as aforesaid, and also for and on account of doing and performing all such other matters and things as are hereinbefore authorised to be done and performed"?—Yes; that is the same sort of clause as is always inserted in mortgage deeds, where the mortgagees have power to redeem. But the receipts are always taken into consideration in such cases; and I apprehend that would be the legal construction of the clause.

1241. Mr. Alderman *Cubitt.*] Is there any clause in the Act directing that the bridge shall be free after the original cost has been repaid?—No, none whatever; and that is perhaps a singular part of it; because they are at present deriving a revenue certainly of from 1,000 *l.* to 1,500 *l.* a year from a bridge which cost 7,000 *l.*

1242. *Chairman.*] It only vests in the Crown by the Act of Parliament?—The bridge only vests in the Crown by the Act of Parliament; the words are, "His Majesty, his heirs and successors," which would, I suppose, at present vest the power in the Queen.

1243. You have stated that you believe that the proprietor is deriving at present a revenue of between 1,000 *l.* and 1,500 *l.* a year; can you state or procure for the Committee an exact account of the amount of tolls raised there?—It is leased by the present owner to the collectors for 700 *l.* a year; but since the lease was granted the tolls have very largely increased, in consequence of the railway. There has been a railway brought almost to the foot of the bridge, which carries most of the traffic in that direction to Hampton Court. The traffic

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that used to come by way of Teddington and Richmond, and Putney and Fulham and Kingston, now generally goes by the railway to East Moulsey, and then crosses the bridge; consequently the toll has very largely increased within the last three or four years. Some attempts have been made to estimate the amount of their receipts, and it is supposed that they collect about 1,500*l.* a year there at present.

1244. Do you think that the inhabitants on both sides of the bridge desire to have it thrown open?—Unquestionably; it would be the greatest boon that they could receive.

1245. Mr. Alderman *Cubitt.*] You said that there was some one who could speak to the condition of the bridge; who is it?—There is a gentleman here, who is a surveyor in the neighbourhood, who perhaps could speak with reference to its condition. I can speak to it to this extent; the ascent on both sides is very steep; it is a very old bridge, and it is on account of the steep ascent and descent, and the vibration, exceedingly dangerous; of this I have often seen instances with regard to the traffic to and from Hampton Court.

1246. Your answer has reference rather to the value of the bridge to the present proprietors than of its value to the public?—Yes; but its condition could only be ascertained by knowing the state of the foundations, we have no means of forming an opinion about that; but with regard to the danger to the traffic, I can speak positively. On such a day as to-day, which is the grand day of the Moulsey races, there would be, perhaps, 200*l.* or 300*l.* collected there in pence, and you would see carriages and horses, and all species of vehicles stopped at this gate upon this steep ascent; I have myself repeatedly seen accidents happen there to people coming from the races.

1247. Lord *R. Grosvenor.*] You are quite as well, if not better, acquainted with Kingston Bridge than with Hampton Court Bridge?—Yes, I am.

1248. Will you inform the Committee whether that bridge is much used?—It is the main thoroughfare after Richmond for, I should say, the whole of the line connecting Middlesex and Surrey in that district, because there is a great sweep of the river at that point; and when I state that the toll collected at Kingston Bridge is about 2,500*l.*, whereas that collected at Hampton Court is only 1,200*l.* or 1,500*l.*, it will be evident that the main traffic across the river is over Kingston Bridge.

1249. It is the main means of communication between Middlesex and Surrey for a large district?—For a district extending over 11 or 12 miles.

1250. Do not people residing further up the river cross Kingston Bridge to go to London?—It is the nearest way from any part of Hampton, Shepperton or Walton, or the other places in that direction to London. The inhabitants of these places come over Kingston Bridge as the nearest way to London.

1251. Is it a good bridge, and in a good state of repair?—It is a very good bridge, and in excellent repair.

1252. Is it a stone bridge?—Yes, it is a stone bridge. It was built by Mr. Lapidge, the surveyor of Surrey, about 25 years ago.

1253. Was it not built at the joint expense of the two counties of Middlesex and Surrey?—It was built under an Act of Parliament, and the money was raised by a loan, I believe, from the Exchequer.

1254. Is the loan to be repaid out of the tolls?—It is repaid by gradual repayments.

1255. When was that Act of Parliament obtained?—I think it was in the year 1825.

1256. Did not a bridge exist there before that time?—Yes, a free bridge existed previously, and had existed for centuries; but the approaches to it were inconvenient, and numerous accidents took place at the turnings of the whole street, and that bridge was a wooden one, and somewhat out of repair; I always fancied that it was not necessary that there should have been a new bridge. Indeed, I know that a person offered to maintain Kingston Bridge for 50 years at the cost of 100*l.* a year. But the Act was obtained, and a toll placed on it. As far as I can discover, there never had been a toll upon the old bridge.

1257. You have stated that the present bridge was built in 1825?—The Act was obtained in 1825; it was built in two years succeeding.

1258. The bridge built in 1828 is in good repair, which the former bridge was not, but it has a toll which the other had not. Do you know whether in the provisions of the Act of Parliament, under which the bridge was built, there is any

any provision for the cessation of the toll, when the amount expended in the erection of the bridge has been paid off?—There is a provision in the Act, that any surplus toll should be applied in the redemption of the cost of the bridge.

1259. You stated, that you believe that it was built by a sum of money borrowed from the Exchequer Loan Commissioners. Are you aware of the nature of the transaction with the Exchequer Loan Commissioners?—The money was lent at 3 per cent. to the Corporation of Kingston, and they were to pay the interest and a portion of the principal every year.

1260. Can you tell the Committee what debt remains still upon the bridge?—Yes; there is a debt of 31,000 *l.* remaining out of 45,000 *l.*

1261. Is the Committee to understand, that in the course of the 26 years which have elapsed since the bridge was built, the sum of 15,000 *l.* has been paid off?—About 14,000 *l.* has been paid off.

1262. Was the amount which you have stated, the whole amount of the cost of the bridge and its approaches?—£.45,000 was the entire cost, except that I believe a portion of some property which I believe the bridge possesses was sold, but to a trifling amount.

1263. Is the sum which you have stated the whole amount of debt now remaining for the bridge?—The whole amount of debt remaining is thirty-one thousand and some odd pounds.

1264. How much is paid off now every year?—I should say nearly 1,000 *l.* capital is paid off every year; it varies a good deal; when there is less interest to pay, of course more of the principal is paid; it is a sort of sliding scale; but on an average, at present we are paying off certainly 700 *l.* or 800 *l.* of capital yearly.

1265. The interest annually diminishing, of course every year there will be a larger amount of principal paid, providing the toll remains the same?—It is calculated that it will take 25 years more to liquidate the debt; there are some gentlemen here to-day, and among them the mayor of Kingston, who can tell you more about that than I can.

1266. Can you state whether there have been any meetings held in the neighbourhood for the purpose of discussing the question of throwing open the bridge to the public free of toll?—There have been public meetings held at Kingston, Hampton, Hampton Court, Walton, Richmond, Weybridge, Staines, Putney and Fulham, and throughout the surrounding neighbourhood; I do not think there is a place at which there has not been some public meeting.

1267. What resolutions have generally been passed at those meetings?—The resolutions have been, that the tolls are very vexatious in their collection, and in their obstruction of the public, and very detrimental to trade, and to free communication; and instances have been adduced without number of the mode in which people put themselves to considerable inconvenience to avoid the tolls; inconvenience probably of 10 or 50 times the amount of the actual toll, as many persons will consider it.

1268. What means have they suggested as best adapted for the purpose of purchasing the tolls of the bridge?—The meetings have generally shrunk from fixing any particular mode, because they felt that they might be fettering themselves, or seeking a mode of redemption that would be objectionable; but I think I might say that every meeting which I have attended, and I have attended three, has come to the conclusion either that a rate on the counties of Middlesex and Surrey should be the source from which the funds ought to be supplied, or that if the London bridges were to be dealt with by any other course, the same course ought to be applied to the country bridges.

1269. At those meetings, was the propriety of continuing the coal duty taken into consideration?—It was very much discussed.

1270. What was the opinion generally prevailing?—There seems to be a great difference of opinion as to the time which it would take to redeem if the coal duty were continued; but the opinion was universal that if, by means of the coal duty, all the bridges could be freed from toll in a certain time, so that the public would feel that, after that limited time, they would be freed from this duty, the tax would be a very proper one to apply to the purpose.

1271. Do you know whether the people so discussing were aware that, by the present Act of Parliament, the coal tax will cease in 1860?—I do not think that they were generally aware of that.

1272. What was your impression with reference to the general opinion, was it

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for a direct or an indirect tax?—The general opinion, after discussion, was in favour of the coal duty being applied to the purpose.

1273. Mr. *Jackson.*] Do you think that the inhabitants of all the districts round Hampton, Richmond, and Kingston bridges would be glad to have a small rate laid upon them for the purpose of paying off the debts on the bridge, and keeping them free, if the whole of the metropolis were taxed equally with them?—Yes. It has been calculated that a penny rate on Middlesex and Surrey would produce about 80,000*l.*; the matter was discussed at the different meetings at which I was present, and they came to the conclusion that 80,000 *l.* would relieve almost every bridge connecting Middlesex and Surrey, excepting the London Bridges.

1274. *Chairman.*] In your calculation, do you include Vauxhall Bridge?—No; I treat Vauxhall Bridge as a London bridge. But taking Fulham and Richmond, and Kew and Kingston, and Hampton Court, Walton, and Staines, it will be found that a rate of a penny, or a penny farthing at all events, on the counties of Middlesex and Surrey, for one year, would relieve the inhabitants of those bridges for ever.

1275. Mr. *Jackson.*] Would you think it just and reasonable that the tax for this purpose should be levied upon the whole of the two counties in preference to being levied upon the part which now suffers?—Inasmuch as a tax on Middlesex and Surrey would take in London and Southwark, I do not think that it would be fair to make the rate applicable to the country bridges alone; because I think that the inhabitants of London and Southwark would have a right to say, at all events, we will apply that principle to ourselves as well.

1276. If the inhabitants of that part of Middlesex and Surrey which is called the metropolis, were to agree to the rate, you, representing the opinion of parties in your district, would have no objection to come under the rating power, provided you could have the bridges in your neighbourhood set free, as well as the metropolitan bridges?—We should have no objection, even if it were necessary, for that purpose, to pay the rate for three or four years in succession.

1277. Is the Committee to understand that, instead of raising a tax generally, they levied a tax in the immediate vicinity, in order to pay the borrowed money which was taken up for the purpose of constructing a bridge?—That is so.

1278. And still it is called a county bridge?—It is so, without question.

1279. But it was not paid for by a county rate?—No, it is not.

1280. Does not your experience tell you that that is an unusual mode of procedure for a county, if they wish to make a bridge, to go and raise money upon loan, and place a toll upon it instead of making the bridge free, through the produce of a county rate?—I can only speak as to what is usual on the Thames. Walton Bridge was built by a private speculation; and Hampton Court Bridge was built very much after the same style, being built under a grant from the Crown, with a power to redeem. Kingston Bridge was the first instance that I am acquainted with in which the money was borrowed in that way. Richmond was built by a tontine.

1281. Lord *R. Grosvenor.*] Then, as far as your knowledge goes, no bridges across the Thames have been built by a county rate?—I do not know any instance except that of Kingston, in which the bridge was built by a sum raised from the county.

1282. Mr. *Jackson.*] Richmond Bridge was a speculation, and Walton Bridge was a speculation, but, as I understand it, the Corporation have built the bridge in this instance by borrowing money upon the security of the tolls, not by rate?—The Corporation of Kingston were the parties concerned. It was built under Act of Parliament. It can hardly be said that the Corporation built it, but they were unquestionably the persons who moved the Act of Parliament and obtained it.

1283. Will you put in a copy of that Act of Parliament?—I have not the Act of Parliament here, but I can put in one. I should like to mention to the Committee that between Kingston and Hampton Court there is 4,000 *l.* a year collected by the two bridges, within a mile, for crossing the Thames; the bridges are within a mile and a quarter of each other at the utmost, and there is a toll of about 2,500 *l.* collected at Kingston, and about 1,500 *l.* at Hampton Court, so that it amounts to a tax of 4,000 *l.* a year upon that particular locality.

1284. Mr. *Wilkinson.*] You have a good deal of acquaintance with the bridges; do you think the mode of paying for them by collecting a toll is desirable or objectionable?—

objectionable?—I think it the most objectionable mode that could by possibility be devised; it cuts a town asunder as it were; for instance, with regard to Kingston and Hampton Wick, there is no division but the river; one is a small town, and the other is a large corporate town, upon which the other must be dependent; but by means of this toll the inhabitants are effectually severed. If a person in Kingston wants to take a walk, instead of taking his family into Bushey Park, he goes in any other direction; and if a poor man wants to get his loaf of bread, he is confined to the particular side of the water where he is; there are numerous instances in the village of Hampton Wick in which poor men live there, and work in Kingston, and they actually devise schemes to avoid the toll; a man will come up to the toll-gate for his dinner, and a boy will come from his house and bring the dinner, and pass it through the bars; all these, and many other similar devices are adopted. I cannot conceive anything more injurious to a locality than a toll placed in such a position, particularly on foot passengers; for although tolls are deemed objectionable upon turnpikes at the foot of any town, they do not take tolls upon foot passengers at a turnpike.

1285. *Chairman.*] Were you rightly understood to say, that the Corporation of Kingston are the trustees of the bridge?—They have the management of the bridge in some shape; they are either trustees or commissioners, and they have a fund sufficient to maintain the bridge of Kingston in repair for ever.

1286. Kingston is greatly increasing; a good deal of building is going on in the neighbourhood?—It has very largely increased of late, and so has Moulsey, from the fact that the station at Hampton Court has come down to the foot of Hampton Court Bridge.

1287. So that there is every probability that the traffic across these two bridges will increase?—Yes, the traffic at Hampton Court, I should think, has more than doubled within the last few years, and will continue to increase.

1288. Mr. Alderman *Cubitt.*] You have said that you think that the people would willingly submit to a county rate; do you contemplate county rate in the immediate locality?—If the rate were applied to the relief of any one bridge, of course the immediate locality would submit to it; but if it were a general rate it should be either a county rate, or a rate upon a certain circumference.

1289. I think you have stated your opinion to be that the continuation of the coal tax would be less objectionable than a rate specially imposed for the purpose?—Yes, for although the coal tax is very objectionable, yet inasmuch as it is an existing tax, and inasmuch as the public would feel that it would be discontinued as soon as the debt was paid off, and inasmuch as they would feel that it was applied to a very beneficial purpose in the meantime, they would prefer the continuance of that tax to the creation of a new tax, particularly as I believe that tax was applied also, to a certain extent, to the erection of London Bridge.

1290. Mr. *Wilkinson.*] At all events, you are distinctly of opinion, that supposing a tax were laid upon the area of 20 miles around London, which is the area within which the coal tax is now collected for the purpose of paying off the debt, or setting free the bridges between London Bridge and the highest bridge in your district, that would be satisfactory to every one?—I have no doubt of it; I think 25 miles would just reach Windsor.

1291. Lord *R. Grosvenor.*] The area of 20 miles extends into Hertfordshire?—Yes, there is no doubt that that plan would give Middlesex and Surrey rather an advantage as compared with a rate levied upon the counties.

1292. Mr. *Wilkinson.*] Are all the inhabitants of those parts more or less interested in the bridges?—Yes.

1293. Lord *R. Grosvenor.*] Have you taken into consideration the area of the coal tax, with a view to ascertain whether it is right or not, that all the people living at a distance of 20 miles from London should pay the tax, or whether it would be better to have a larger or a smaller area?—I approve of the area of the coal tax; whether it was based upon that principle or not I do not know, but certainly 25 miles round London is much about the circumference within which the inhabitants would be benefited by a relief from toll. You could not fix perhaps upon a fairer distance; because persons within 25 miles are probably in immediate communication with the metropolis, and must be benefited by a relief from toll.

1294. How would a farmer living in Hemel Hempstead, in the county of Hertfordshire, be benefited by the tolls being taken off the bridge?—A farmer

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living at Hemel Hempstead would perhaps escape toll in almost every direction, but his commodities coming from the borough of Southwark or the neighbourhood beyond Vauxhall, or crossing the river in any direction, must pay a toll; and it is notorious that in charging for such commodities the tradesmen do not keep within this amount of toll, but add about double or treble the amount, whenever they cross the river. And increased price is put on the article delivered to the extent of twice or three times the amount.

1295. How are they able to put it on?—There are tradesmen here, who, if any goods are ordered from them, will go a mile or more further without making an additional charge if they have not to cross the bridge; but if they have to pay the toll, they put on an additional charge directly, although they go even a less distance than they deliver the goods to, without an extra charge, on the same side of the river.

1296. Mr. *Jackson.*] Every charge put on the transit of goods is a tax upon the consumer, is it not?—It is a charge put upon the consumer of goods to that extent.

1297. Mr. *Wilkinson.*] If a farmer at Hemel Hempstead derives a benefit from the abolition of tolls in a reduction of the price of the articles he consumes, ought he not to pay the tax?—Yes, if he derives manure or any other commodities from London. He can hardly be free from some amount of taxation on account of the London bridges, if he is in business to any extent.

1298. Lord *R. Grosvenor.*] But would not you be ready to admit that the benefit to the persons resident in the immediate vicinity of the bridges would be much greater than the benefit which would accrue to a man living 25 miles from London?—Yes, but that is very variable; of course persons living within five miles of a bridge would be more benefited than those living within 10, and those living within 10 would be more benefited than those within 15, and so on; but it would be so variable that one could hardly fix a ratio of taxation that would be fair unless you were to take a certain circumference as the area of taxation; any other plan would be subject to a much greater objection than the mere fact, that one person residing within the circumference does not derive an equal benefit with another.

1299. You will admit that is very much a question of degree?—Undoubtedly.

1300. Mr. Alderman *Cubitt.*] With regard to the coal tax, is it not paid to a very much greater extent by the people residing near the bridges than it is by those residing further off in the less populated districts?—No, I think not very much. People, whether near the bridges or otherwise, consume coals in the same proportion; for instance, a gentleman living at the rate of 1,000 *l.* year, whether he is living at Southwark or at Hampton Court, or 10 miles from the river, consumes about the same quantity of coal.

1301. Is there not a denser population near the bridges than elsewhere. About Kingston Bridge, for instance, is there not a denser population than near Hemel Hempstead?—Yes.

1302. Would not it therefore naturally follow that the tax would be levied to a much greater extent near the river than elsewhere, and that consequently the money raised for the liquidation of the debt on the bridges would be collected to a much larger amount in the neighbourhood of the bridge than at a distance from it?—Yes, it would be so on account of the large population, of course. If you have a very large population a more considerable tax would be paid; but I submit, with regard to the country bridges over the Thames, that in London a man has never to walk much more than half a mile, more or less, whether he goes over a toll or a free bridge. For instance, a person coming in any direction half a mile distant would have the chance of avoiding the toll in that way. But in the country he must go five or six miles in order to avoid a toll-bridge in any direction. If he wanted to avoid a toll-bridge he could not go less than five or six miles to get a free transit, whereas in London he would get it within half a mile almost at any spot, so that I fancy the demand for free transit in the metropolis and in the country are the same. In London, although the quantity of persons flocking to London would of course be a much greater number, yet still the inhabitants have the option of free transit over the river, which they have not in the country. In many places in the country a man must go seven or eight, or 10 miles, round to get a free transit over the river. Indeed I do not know that they can get a free transit within a distance of 15 miles, for there is only one free bridge, that at Chertsey, in that part of the river.

Frederick Gould, Esq., called in; and Examined.

1303. *Chairman.*] I BELIEVE that you are the Mayor of Kingston?—I am.

1304. Mr. *Jackson.*] Can you give the Committee an official account of the receipts and expenditure, and of the amount of the reduction of the debt of that bridge?—The Corporation are the Commissioners of the bridge, and therefore I can give you that information. The original cost was 40,000 *l.* for the bridge, and 8,000 *l.* for the approaches, and the necessary amount was borrowed of the Exchequer Loan Commissioners at 3 ½ per cent.

1305. How much per cent. in addition has been applied to the sinking fund?—The interest is paid off by the receipts of the bridge, and there is a surplus which goes annually to the liquidation of the principal; about 800 *l.* a year is thus paid off. We pay 1,200 *l.* a year for interest, and about 800 *l.* for reduction of the principal, so that during the 26 years that the bridge has been built we have paid off about 13,000 *l.* I would state that we rate the rent of the bridge at 2,000 *l.* or 2,200 *l.* At the present moment it is 2,000 *l.*

1306. *Chairman.*] Are the tolls let on lease?—No, they are annually put up for contract, and the letting is advertised; they are let by tender.

1307. Lord *R. Grosvenor.*] What is the present amount of interest payable?—The present amount of interest payable is about 1,200 *l.*

1308. What is the amount of interest at the present moment?—I am not prepared to state the exact details, having been detained in endeavouring to get from the town-clerk's office a particular statement which was promised me, and which I hope to be able to furnish to the Committee. I will get a full statement of our accounts prepared, and put it in.

1309. The Committee would like to ascertain your opinion as to whether the toll which exists upon the bridge operates injuriously to the interests of the neighbourhood, as far as your side of the river is concerned?—It is, I think, one of the most grievous sources of complaint which we have in the neighbourhood. It operates very injuriously upon the neighbourhood, especially pressing upon the poor, from the peculiar circumstance that a considerable number of the poor get their lodgings or small cottages in Hampton Wick and come to work at Kingston. It amounts to a tax, paying, as they do, a halfpenny each time, of 2 *s.* or 3 *s.* a week, unless they subject themselves to the inconvenience of going to the public-houses in the place, or taking food with them when they go to work in the morning. One may see at meal times the wives and children of the labourers bringing up their meals to the bridge, and endeavouring to get them passed through the gate.

1310. What is the best mode, according to the opinion of the people in the neighbourhood, of raising the money necessary for throwing open that bridge?—That question has been discussed in several ways, but I gather from the especial inquiry which I have made lately, that either a coal tax in a modified form, or a rate levied over either the area of the coal tax or a modified area, would be the most acceptable mode of paying off the debts upon the bridges. I think that the coal tax, far from pressing heavily upon the inhabitants, is not, by a large number, known to exist at all.

1311. So that indirect taxation you think more desirable than direct, as regards the bridges?—I think decidedly so in that case; for, I think, it would be found that that mode of raising the money (by means of the coal tax) would throw the burthen of paying off the debt on the bridge upon those by whom it could best be borne, on account of the smaller consumption of coals by the poor. Many families do not use on an average more than a ton, perhaps not half a ton of coals in a year, and the tax upon that would be a smaller sum than that which the same persons pay now in toll. They often pay as much as 30 *s.*, 40 *s.*, or 50 *s.* in a year.

1312. Mr. *Jackson.*] Did not you say just now that people of every class who lived in the vicinity of a bridge, would be materially benefited if the tolls were taken off?—I think so.

1313. Do not you think that it would be just, reasonable, and fair, that the owners and the occupiers of property of every description should pay a fair proportion of the tax raised necessary to set it free?—Certainly.

1314. Do you think that the coal tax, as at present levied, reaches every one

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of those parties?—It reaches every person who happens to be resident within the area.

1315. Supposing that the owner of a house in Kingston resided 150 miles off, would not his property be benefited by the reduction of the toll upon this bridge, while at the same he would not be affected by the tax?—Yes, but I believe that those would be very exceptional cases.

1316. Looking at the question in that light, do not you think that a local rate of a halfpenny in the pound which would reach all the parties benefited, would be the most just mode of taxation?—A rate of that kind would not reach all parties, inasmuch as the poorer outlying cottages, of which the rent is under a certain amount, do not pay tax; and moreover, I think that it would be a most difficult tax to levy, upon the poor especially. We find at present a grea difficulty in levying the local rates under the local Act with regard to the composition for cottages, of which the rent is under a certain amount, inasmuch as it frequently happens that poor persons receiving parochial relief are taxed, and they are excused.

1317. Do not you think that the principle of such a tax would be more fair than that of the coal tax?—I confess that, from all I have seen and thought of the matter, it seems to me that the coal tax would be the least objectionable.

1318. Mr. Alderman *Cubitt.*] The coal tax does, in fact, reach every person who is in any way benefited by the bridge?—With a few exceptional cases of persons owning property and living far away. I have made it a point for the last week or two, during the time that this matter has been in discussion, to speak upon the question to various individuals, and to endeavour to ascertain their feeling upon the matter; and I think the general remark made by men of business, well-informed persons, and persons officially concerned, has been, "We do not pay the coal tax here, do we"? They were not actually aware that it was paid at all. I think, indeed, that it is doubtful whether, if the coal tax were taken off, the price of coals at Kingston would be affected by the change. I question whether, if it were taken off to-morrow, and I sent and ordered two or three tons of coals, I should get them for one farthing less than I do at present, the amount of the tax is so small a per-centage upon the price of coals there. We are paying from 25 *s.* to 40 *s.* a ton, and a tax of 1 *s.* 1 *d.* upon that is hardly appreciable.

1319. Mr. *Jackson.*] Do you consider that the inhabitants of Kingston are in the same condition as the inhabitants of Windsor, who are paying a tax, and the other not?—I do not think that the difference would be worth consideration, inasmuch as a person consuming five or six tons pays only 5 *s.* or 6 *s.* per year tax upon that; and a person who uses that quantity of coal in a year must be very well off.

1320. Mr. *Wilkinson.*] Is it your opinion that if it were proposed to levy a tax, either the coal tax or any other, upon a district of 20 miles round London, for the purpose of buying up the existing toll-paying bridges, and perhaps erecting new bridges throughout the whole district, including the metropolitan, the inhabitants of your district would wish to be included in that tax?—If you may apply the term popular to a rate or tax, I do not think that a more popular rate, or one more readily acceptable to the public could be proposed, than a rate for the entire freedom of all bridges within an area of 25 miles. It would be especially acceptable to us in the country, for I agree with the remark with regard to the people of London, made by the last witness. I think it is the fact, that the people generally do not pay a toll in passing over from one side of the river to the other, as they can have their choice of a free bridge; but I do not at this moment recollect a free bridge across the Thames for 20 miles from Chertsey to London; we may sometimes avoid crossing the bridges when we have still to keep on the Surrey side, by going round through Ditton and Moulsey, and so avoiding the bend of the river; but we cannot cross from county to county without paying toll.

1321. *Chairman.*] Have you any knowledge of the proportion of foot-passengers to the other traffic over Kingston Bridge?—It is estimated that about two-thirds of the whole amount of the toll collected at the bridge is levied upon the foot-passengers; if we reckon the whole amount at 2,400 *l.* a year, the rent being 2,000 *l.*, and of course a benefit is derived by the lessee, which we may reckon at 400 *l.* or 500 *l.* a year, thus taking the toll at 2,400 *l.* a year, it would follow that upwards of 800,000 persons are stopped, and toll is demanded from them every year.

1322. Mr. Alderman *Cubitt.*] Is not there another element in the bridge to be added to the burthen of 2,000 *l.* a year which you receive. Is not the collector also continually paying money out of his pocket to his own sub-collectors?—Certainly.

1323. Do not the public, therefore, pay a vastly greater sum for the accommodation than would be necessary if the bridge were free?—They do; it is a tax levied upon the neighbourhood of nearly 3,000 *l.* a year, whilst the coal tax over an area of 25 miles would bring upon us a much smaller amount than that; and yet we should pay a large proportion, because, being densely populated, our neighbourhood would bear its proportion. Now a tax which is to be decided upon or ascertained by a vicinity, may appear to bear oppressively upon persons who happen to reside very far off, and yet there are persons living 10 or 12 miles distant from Kingston Bridge, have occasion to use it far more than I or many of the inhabitants of Kingston. I believe that I am within bounds when I say that the traffic upon that bridge would be increased fourfold if the toll were taken off, in consequence, partly, of the vicinity of Bushey Park, Hampton Court, and the neighbourhood immediately adjoining. It is an important thing for the people of the town now that the fields all around are being covered with houses, to have an easy access to a place which is thrown open to the public. Bushey Park and Hampton Court Palace are within a few minutes' walk of the market-place, but a heavy tax is imposed upon the people going thither; for example, a man and wife, with three or four children, must pay a tax of 6 *d.* in going there and returning.

1324. Mr. *Wilkinson.*] In letting the tolls do you stipulate as to what toll is to be levied?—We do.

1325. What is the amount of the toll?—For every foot-passenger it is one halfpenny; ditto, with a wheelbarrow, &c., 1 *d.*; for every horse, 1½ *d.*; ditto, carrying double and not drawing, 2 *d.*; for a coach, chaise, &c., drawn by one horse, 3 *d.*; ditto, drawn by more than one horse, 3 *d.* each; for additional horse drawing two-wheel carriages, 1½ *d.*; for carts and waggons, &c., drawn by one horse, 4½ *d.*; for every additional horse, 1½ *d.*; for every bull, ox, &c., 1½ *d.*; and for sheep or lambs, 5 *d.* per score.

1326. Have any alterations been lately made in the tolls?—Not that I am aware of.

1327. Mr. *Jackson.*] Are you compelled by the Commissioners from whom you borrowed the money for the construction of the bridge, to keep the tolls at their present amount?—I am not aware that we are.

1328. Have you ever considered the propriety of reducing them?—The question has been discussed, but it has been considered better to keep the tolls as they are, and so to get the bridge free, or to make some effort by the increase of taxation to pay off the debt.

1329. Have you ever tried the experiment of reducing the tolls in the hope that such a step might increase the receipts?—That may have been done formerly, but I am not aware of it.

1330. Mr. Alderman *Cubitt.*] As two-thirds of the whole amount is paid by foot-passengers, who only pay one halfpenny, would there not be some difficulty in reducing the toll?—Decidedly. It has been suggested to take off the toll upon foot-passengers, but it was found that the income of the bridge was mainly derived from them, so that such a step would be fatal to our engagement with the Exchequer Loan Commissioners. I would add, that there is a property belonging to the bridge which brings in about 160 *l.* a year, and that the expenses of repairing, watering, and lighting the bridge, are rather less than 150 *l.*, so that there is in the hands of the Corporation a property that would pay the incidental expenses of the bridge if the toll were taken off.

1331. *Chairman.*] Have you any knowledge of Hampton Court Bridge?—I have.

1332. Do you know whether any proposal has ever been made to purchase Hampton Court Bridge, and if not what steps might be taken for that purpose?—I believe that there is a condition in the grant originally made to the builder of that bridge by which it may be purchased at any time by Government at its original cost.

1333. Would not 7,000 *l.* be the price which the Government would have to pay for the purchase of that bridge?—I believe that would be about the

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price. It would be the original cost, which at all events would be considerably less than the erection of a new bridge would now cost.

1334. Mr. Alderman *Challis.*] What reason have you for making that statement?—The bridge is entirely built of timber, and I have no doubt that labour and materials were then much less expensive than they are now.

1335. How long has the bridge been erected?—130 years.

1336. Mr. Alderman *Cubitt.*] Does not the clause in the Act of Parliament, which gives power to the Crown to purchase the bridge, direct that the price shall be what it has then cost?—I believe it does.

1337. *Chairman.*] Are not the foundations of the bridge extremely ancient?—I should think so.

1338. Formerly there was a free bridge on its site?—I suppose so. Kingston Bridge was a free bridge from time immemorial, until the present bridge was built. There is a peculiarity in the case, to which it would be right to call the attention of the Committee, a fact which is mentioned in our memorial, namely, "That the debt now chargeable upon the bridge is strictly due to the Crown, as the Commissioners of Her Majesty's Woods and Forests and Land Revenue are the sureties to the Exchequer-Bill Commissioners for the repayment of the said loan by the said bridge commissioners, and consequently should the Legislature think proper to free the bridge from such debt, there would not be any money to be advanced for the discharge of the said debt."

1339. Mr. Alderman *Challis.*] What is the amount of debt at present?—£35,000. If we consider the bridges altogether, it seems that the whole of the rural bridges could be set free for something less than the cost of one of the metropolitan bridges; and this step would be productive of a far greater amount of accommodation to the public than the setting free of any of the metropolitan bridges.

1340. Mr. *Wilkinson.*] Have you made any estimate as to the time that would be required to free the bridges by means of a county rate?—I have been asking the Government officer for information as to the amount of such a rate, in order to be able to prepare a statement as to what it would produce upon an area of 25 miles; but my impression is, that it would take a small rate 25 miles round London.

1341. The last witness has assumed it to be 80,000 *l.*; have you any means of knowing whether that is correct?—That is our impression for the rural bridges. I have been endeavouring to get, and I dare say that I shall be able to procure a statement of the costs of the different bridges, as far as they may be known or ascertained; and of the amount that would be necessary to free them, but I think that about 80,000 *l.* will be the sum; and that is what a penny rate would raise, but I should have known it positively if I could have obtained the assessments of the counties. Our impression is, that a penny rate upon the two counties of Middlesex and Surrey would nearly, if not quite, free all the county bridges in one year.

1342. Will you endeavour to get what information you can upon this subject before next week?—I will. I hoped to have obtained it before to-day. I may state that, at the meetings I have attended (and I have already taken part in two or three), this of course has been a very important feature in the discussion. In these cases the broad matter was discussed, and the view which the meetings generally took (and I think I may say that the meetings were unanimous upon that point) was, that without committing themselves to either the coal tax or an improvement rate, or a rate over an area, they would gladly have the bridges free by whatever course might to the Committee and the House appear to be most suitable. We felt it desirable not to commit ourselves; but I am sure that we should consider it a very great boon to have the bridges free by either course of taxation.

1343. You include the metropolitan bridges in your opinion?—Certainly.

George William Andrews, Esq. called in; and Examined.

G. W. Andrews, Esq.

1344. TO which of the bridges does your knowledge extend?—To Moulsey bridge.

1345. Will you be so good as to inform the Committee whether, to the best of your knowledge, the people in the neighbourhood of that bridge would wish to have it thrown open to the public?—I should think most assuredly that they would;

would; and for this reason, that the toll is very heavy there, much heavier than the general rate of the tolls on the bridges over the Thames; heavier, I believe, than any, with the exception of Walton; there is no other bridge in the neighbourhood which has so heavy a toll.

1346. Mr. Alderman *Challis.*] What opportunities have you of knowing the feeling of the people in the neighbourhood with regard to this matter?—I have a large mill on the opposite side of the bridge to Moulsey, so that the toll just catches me; and it is really a weighty affair to me; I only just pass over the bridge, and of course I have to pay the toll.

1347. What opportunities have you of knowing and estimating the feeling of the inhabitants as regards the toll?—I know it by constantly passing and repassing.

1348. The throwing the bridge open would relieve you from paying the toll, is not that the ground of your opinion?—Not merely so; but I hear persons complain constantly of the toll, and the general feeling is, that if the toll could be got rid of by means of some other mode of taxation, even supposing that it amounted to the same thing as regards the sum levied, they would rather be subject to that tax than be constantly annoyed by the squabbles which they at present have with the person in possession of the bridge.

1349. From what do those squabbles arise?—From the fact that the individual who is in possession of the tolls has of late made private arrangements with certain parties to reduce the toll; the toll by Act of Parliament is 1*s.* each way for every waggon, and she makes arrangements with some people, by which they only pay one way, in consequence of their frequent use of the bridge; but then, if they have a small article at the bottom of their waggon or cart, she says that that amounts to loading both ways, and then the toll is put on both ways.

1350. Do not difficulties arise from the concession which the owner has made, because by Act of Parliament she having the right to take 1*s.*, she limits the amount by taking less, and the public wish to deceive her, and to take a licence, which she does not consider to be included in the arrangement which she makes?—Not exactly so; of course most reasonable persons would be most happy to pay a reasonable toll, but for instance, supposing that there were in my cart a sack of any particular article which might be directed to come back again, as the waggon returns, and I saw that it would be charged double toll, whereas the waggon at other times only paid single toll, I should consider it a great hardship; the toll collector has also a right to charge 6*d.* a horse after the two first horses. If a waggon goes over the bridge with two horses they charge 1*s.*; and they charge 6*d.* additional upon every other; and sometimes they will call the waggon a big waggon, and make further charges on that ground.

1351. If the toll collector charged uniformly as much as the Act of Parliament requires, there would be no difficulties?—No, but you must take into consideration the fact that the toll is excessive.

1352. Mr. *Jackson.*] Do you think that the public generally are desirous of getting rid of the present toll?—Most assuredly.

1353. Do you think that there would be any objection, on the part of the people who live near the bridge, to have a small tax laid on them, provided the bridge were made toll-free?—I believe that all the individuals who make use of the bridge and pay the toll, would be most happy to enter into any arrangement by which they could be rid of the nuisance of having to pay the toll.

1354. Do you consider that if the toll were removed the whole district would be benefited?—There can be no doubt about it; because it would facilitate the communication which is at present cut off by the existence of the bridge.

1355. Do you think that the benefit which would be derived by the inhabitants generally from throwing open the bridge, would be equal to a charge of 1*d.* in the pound upon their rents?—That must depend upon how long the charge existed; as regards ourselves, we should be happy to pay 2*d.* in the pound, but the rest of the district would not be so much benefited.

1356. Would the advantages to the whole neighbourhood from this step be so great, that a tax of 2*d.* in the pound for accomplishing it would not be generally thought too great?—I can only speak from my own personal feelings. It would be so with regard to me, and I think that it would be so with regard to others. I am a large purchaser of wheat in the neighbourhood, and I know that frequently farmers will not face the toll over this bridge; they say that they

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will take their wheat to Uxbridge or elsewhere, rather than go over the bridge; that is a great prejudice to every one, but more particularly to me.

1357. Other parties are similarly placed with you in that respect, in a measure proportioned to the amount of the business they do?—Yes; for farmers it is a very heavy tax upon them; Moulsey is but a small village close upon the bridge, and they make use of a small portion of the road.

1358. Is not the high toll a disadvantage to them both as producers and consumers?—There can be no doubt about it.

1359. Do you think that the removal of this restriction upon the bridge would be a great advantage to the district?—I think it would be a far greater advantage than the disadvantage which they are now under in paying the toll; because it would give greater facility of communication.

1360. They would cheerfully pay a small rate in order to get the bridge thrown open?—I should think so.

1361. The general feeling would be in favour of a rate?—I should think so; but, as I have said, I can only speak from my individual experience.

1362. Mr. *Wilkinson.*] You said just now, that the parties who now pay the toll would be glad to pay a tax in order to get rid of it; we now hear from you, that not only the people that use the bridge, but that all who are consumers of wheat in the neighbourhood, would derive benefit from it?—I should imagine that people who live in the neighbourhood must of necessity use the bridge, because they cannot get from one side of the river to the other without doing so, and they are cut off entirely from the Middlesex side of the river; they must use either Walton Bridge or Moulsey Bridge, and the tolls on both are excessive.

1363. Is it possible that a person who never went over the bridge in his life would be benefited by the removal of the toll?—I think it is likely, but it would be difficult to persuade him of it. I perfectly concur in the idea that there would be obdurate people who fancy that they have no interest whatever in the removal of the tolls, but they would be ultimately benefited by their removal.

1364. Mr. Alderman *Challis.*] If you call a public meeting upon the subject, would not it be likely that the opinion of the public meeting would be, that they were not interested in the matter?—I think that the general public are interested, and I think that they would one and all allow that they were so.

1365. Would you, in your judgment, have anything like a majority of parties in a public meeting?—I think I should with regard to all parties using the bridge.

1366. But in calling a public meeting, you would get together all the inhabitants of the district, not merely those who used the bridge?—If we called a public meeting, it would be useless to call it except in the neighbourhood, and it would be composed of the parties living in the neighbourhood; but I have no imagination that there would be any diversity of opinion upon this subject.

1367. You would call to the public meeting all the persons upon whom the tax was proposed to be laid?—Yes; and it would then consist of the people in the neighbourhood.

1368. Do you think that the majority of such a meeting would be in your favour?—I can only judge from my own feeling; but I fancy that a common-sense view of the matter would bring one to no other conclusion. I fancy that any person resident in that particular neighbourhood must be desirous of ridding himself of the toll, and would be so, even supposing that he did not save anything by the transaction, as they would then go over the bridge three or four times as frequently as they do at present. I can give an instance with regard to a baker in the immediate neighbourhood. The baker contracts for his tolls, because he does not know how many times he will have to go over the bridge, because much of his custom is with Hampton Court, and it was only a day or two ago that the toll collector of the bridge came to the baker, and told him that the arrangement must cease. She paid 5 *l.* a year for the privilege, and she said that she could not continue the contract any longer, because the 5 *l.* was more than she considered that she was advantaged by it. Now this is but one case, and there are many others. From the fact of the trade of Moulsey being principally with Hampton Court, they would pass and repass more frequently during the day if they had the privilege of going free. If they could get their customers to give what they considered fair and reasonable compensation, they would take their

their goods, and so they would have to pass and repass; the consequence of which is that both sides are prejudiced. *G. W. Andrews, Esq.*

1369. Mr. Alderman *Challis.*] There can be no doubt that all the parties who have to pay toll in consequence of carrying on their business near any bridge, would be glad to get rid of the toll; but the Committee are very anxious that you should give them some information as to the general feeling of the neighbourhood upon that subject. It is not your own opinion that we desire, but that of the neighbourhood; the facts that affect the question?—I intended to have prefaced my observations before this Committee, by saying that I spoke rather personally than with regard to the general feeling; but still, having constantly passed the bridge, and carrying on business in the neighbourhood of that bridge, I think I am able to give some information, and I will give you the benefit of all that I possess. 22 June 1854.

1370. *Chairman.*] The Honourable Member for Finsbury asked you whether you thought that if a public meeting were called in your locality, that public meeting would be unanimous as to the advantages which would accrue from throwing the bridges open. Have not public meetings been called upon the subject?—I believe there have been such, but it does not come within my own knowledge. My brother resides in the mill, and I reside at Brentford; that is the reason why I am not so frequently in Moulsey. But I am the person who suffers most by the levy of the toll.

1371. You cross the bridge frequently?—Yes; my waggons cross it very frequently. My own toll would be very small; but in business I think sometimes it has cost me 15 *s.* a week.

1372. Can you give the Committee any information as to the solidity of the bridge?—When my waggon passes over it some people run away, because they are almost sure that the bridge will come down; they are not accustomed to the vibration which is caused by a heavy vehicle, and they imagine that there is danger because it is so great.

Mr. *Evan Hare,* called in; and Examined.

1373. *Chairman.*] WHAT is your occupation?—I am the Solicitor of Putney parish. I hold in my hand a petition, concerning which I was about to write a note to the Honourable Chairman of this Committee, to ask him to be kind enough to present it to the House. The petition says as much as I can possibly say upon the subject. *Mr. Evan Hare.*

1374. Mr. Alderman *Challis.*] What opportunities have you had of obtaining information which would be useful to this Committee?—I am not prepared to give any information. I have a great deal to do with Putney Bridge; I cross it daily.

1375. Mr. *Jackson.*] Can you give the Committee the cost of the bridge, and its receipts and expenditure?—No, I cannot.

1376. Is there any person connected with the bridge who could furnish the Committee with that information?—I am a shareholder myself; I will come prepared with that information.

1377. Mr. Alderman *Challis.*] Is there a secretary to the Putney Bridge Company?—There is.

1378. What is his name?—Henry Chasemore, of Fulham.

1379. Mr. *Jackson.*] Who is the engineer of the company?—It is a wooden structure. There is no professional engineer.

1380. Will the secretary be prepared to speak to its present state?—Yes; I think that its present state is very good.

1381. Is there any other gentleman who could give the Committee any information respecting this bridge?—I shall be happy to attend to it myself.

1382. Mr. *Wilkinson.*] Do you know the feeling of the inhabitants of Putney as regards the desirableness of throwing open the bridge?—As far as Putney is concerned, the feeling is very strong indeed in favour of removing the toll.

1383. Has there been any meeting held upon the subject?—Yes.

1384. What was the opinion expressed at that meeting?—The opinion expressed was, that if you could charge a larger area by means of a county rate, it would be very desirable.

1385. Did they come to any resolution at that meeting?—Yes; the resolutions are stated in our petition.

Edward Phillips, Esq. called in; and Examined.

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1386. *Chairman.*] YOU reside at Kingston?—Yes.

1387. You are well acquainted with the condition of Kingston Bridge?—Yes, I am.

1388. And with the state of the traffic over the bridge?—Yes.

1389. Is it your opinion that there is a strong feeling in the locality in favour of making it a free bridge?—There is a very strong feeling upon the subject; they are unanimous.

1390. Do you think that the people of the neighbourhood would be satisfied to bear some tax in lieu of the imposition of the toll?—They would most readily; I have asked many poor men what their feelings were, and they have told me they would willingly pay a subscription for the purpose.

1391. Have you had any public meetings upon the subject?—Yes; we had a large public meeting upon the subject in Kingston.

1392. Did you come to any resolution at that meeting?—Yes, we did; it is embraced in a resolution presented to the House on the 24th of last month.

1393. Mr. *Jackson.* The opinion of the meeting was unanimous in favour of a rate of some description, either direct or indirect, to do away with the tolls?—Yes.

1394. Whether a direct tax, or an indirect tax in the shape of a coal tax, is thought most expedient by the House, they are ready to submit to the tax?—Quite so; but I think the general opinion is in favour of an indirect tax, because as everybody pays, it is almost imperceptible, and the poor man, who will derive a great benefit from the throwing open of the bridge, will pay his share of such a tax.

1395. Mr. Alderman *Challis.*] Do you know anything about the cost of the bridge?—Yes; at the present moment Kingston Bridge is indebted to the Exchequer Loan Commissioners to the amount of 35,000*l.* At all the meetings that have been held, I believe myself and the mayor of Kingston and Mr. Grey were present, and they were unanimous in their opinion.

1396. How many meetings have you attended?—I have attended meetings at Walton, and Hampton Court, and Kingston. There was a very large meeting at Fulham, at which I was not present, and also one at Putney; but we have seen gentlemen who were present at those meetings, and they have told us that a similar opinion was expressed there.

1397. You know that, in all those five places, at least the majority, if not the whole of the inhabitants, were in favour of opening the bridges?—Yes.

1398. And they were prepared to pay the expense of this improvement?—Yes; and that they would prefer the coal tax, because it is an existing tax.

1399. Mr. *Jackson.*] Was there not a meeting held at Staines?—Yes.

1400. *Chairman.*] Do you happen to know anything about Richmond Bridge?—Yes, it was built by tontine; that will cease; the toll upon that will cease at the death of an old lady, who is 80 years of age.

1401. Mr. *Jackson.*] Will you explain the nature of a tontine?—Annuity on survivorship. Supposing that 20,000*l.* was required, that would be divided into shares, and any gentleman who took a share might name his child, and put upon that child's life 100*l.* or 500*l.* at 5 per cent., which interest was to be paid as long as the child lived; that was the way in which the money was raised.

1402. Were Parliamentary powers obtained to raise, by means of a tontine, the money to build the bridge?—Yes.

403. Do you know the condition of the bridge?—No, I do not; on the death of that old lady whom I have mentioned the toll will entirely cease, and she is now 80 years of age.

1404. If her interest were to be bought off, the bridge would be free?—Quite. Indeed the Richmond people do not care about the toll upon their bridge, because they know that it will cease before very long.

1405. *Chairman.*] Are you sure of that?—Quite.

1406. On making inquiry about Richmond Bridge, I was told that a captain in the navy had an interest upon it, and that at his death it would go to a lady, who would be the last survivor?—He may have purchased her interest, but of course at her death his interest would cease entirely.

1407. Do

1407. Do you know anybody at Richmond who could tell the Committee these facts, of his own knowledge?—Yes; I believe Mr. Pigott could give the Committee that information.

1408. Mr. Alderman *Challis.*] But you know that it was raised by tontine, and that there is only one remaining who has any claim upon the bridge, and that that person is 80 years of age?—I know it. Messrs. Smith and Chapman, the solicitors to the bridge, could give the Committee that information. Kew Bridge is a private bridge; it was bought for 19,000 *l.* some years ago; it belongs to a Mr. Robinson. All the people of Kew were unanimously of opinion that the throwing open the bridge would be an excellent thing for them.

1409. Can you tell the Committee the name of any person connected with that bridge, who could give the Committee information about it?—Mr. Robinson is the owner; he resides at Richmond, I believe.

Thomas Ritchings, Esq., called in; and Examined

1410. Mr. *Jackson.*] WILL you tell the Committee what is the general feeling of the inhabitants of Staines with reference to freeing the bridge from toll?—They are most decidedly in favour of getting rid of the toll, which is a serious injury to both of the towns of Staines and Egham.

1411. Would they object to a tax for the purpose of freeing it entirely of the tolls?—Quite the contrary.

1412. Would they object to be subject to a rate, which should be levied over the area of 20 miles round the Post-office, for the purpose of opening all the bridges over the Thames?—I should say decidedly that they would not.

1413. The feeling of that district would be in favour of submitting to the tax which might be levied over an area of 20 miles, in preference to continuing the bridges as they are at present?—Certainly they would; and more especially as Staines was formerly a very great thoroughfare. At one time there were 100 coaches which passed through the village, besides posting and waggons, the whole of which is now gone.

1414. Mr. Alderman *Challis.*] Have you taken the opinion of the people of Staines, through the medium of a public meeting?—We have called no public meeting, but at our various vestries it has become a subject of discussion.

1415. You know the opinion of the people; and, as far as you know, everyone is desirous to pay a small tax in order to free the bridge?—Undoubtedly.

1416. Mr. Alderman *Cubitt.*] Can you state whether they would prefer that the coal tax should be continued, or that it should be abolished, and a different mode of rating substituted for it?—I think that the ratepayers would prefer a direct rate, in order to get rid of the toll completely.

1417. Mr. *Jackson.*] If this Committee were to recommend that one or two new bridges should be erected over the Thames, would there be any indisposition on the part of the inhabitants of Staines to pay their share of the cost of those bridges?—I do not know. Our bridge is in the direct line from London, and we hardly know what advantage the town of Staines would derive from any bridge which might be built upon the right or left of us.

1418. If the whole of the metropolis became subject to a tax for the purpose of freeing all the bridges of the metropolis, and it was the opinion of this Committee that another bridge near London would be desirable, the inhabitants of Staines would not object to paying their share of the expense of erecting that bridge?—No.

1419. Do you think that there is so much public spirit in the people of Staines, that if they benefited themselves by taking off the toll, they would also unite with the rest of the metropolis to build other bridges?—I think so.

1420. Mr. *Wilkinson.*] Do not the inhabitants of Staines use the metropolitan bridges?—Yes.

1421. And therefore they have an interest in the bridges being thrown open?—Certainly.

1422. Mr. Alderman *Challis.*] What is the capital of the bridge?—It is 4,000 *l.* I believe the money is raised upon the tolls at 4½ per cent. They pay now little more than one per cent. They paid a little more than that last year, in consequence of the resort of the camp at Chobham.

1423. *Chairman.*] Will you give the Committee a financial statement of the cost, and the expense of maintenance, and the revenue of Staines Bridge?—

T. Ritchings, Esq.

22 June 1854.

I know the cost of the bridge was 8,500 *l.*, and the tolls at one time were 4,000*l.* a year. The tolls are now, however, considerably less.

1424. Mr. *Wilkinson.*] Who does it belong to?—A Mr. Levy has taken possession of it under his mortgage; he holds it as a mortgagee, and makes a small dividend from it.

1425. *Chairman.*] Was the bridge built by a joint-stock company?—It was raised upon bonds.

1426. Mr. Alderman *Challis.*] Is the one per cent. dividend which is now paid, exclusive of the expenses of keeping the bridge in repair?—There is very little expense in keeping it in repair.

1427. Will you let the Committee know the expense of keeping the bridge in repair, and the income derived from the tolls?—Yes; I will furnish these particulars for the whole period, from the time that the decrease first took place.

1428. Mr. *Wilkinson.*] Do you not know upon what terms the bridge could be purchased?—No, except that the bonds could be sold for a very small sum.

1429. *Chairman.*] What is the amount of Mr. Levy's mortgage?—I do not know.

1430. Will you favour the Committee with all the information that you can obtain about the bridge?—I will do so; and I will bring with me next time some gentlemen who are connected with the bridge, and who will be able to give a more decided opinion than I can.

1431. Mr. Alderman *Challis.*] Will you endeavour to supply this Committee with information, by means of which we can ascertain the actual value of the bridge?—I shall be most happy to afford any information that I can obtain upon the subject. The present price of the bonds would furnish some idea of the probable amount of the redemption. They are now sold at about one-fifth of their original value. Some of the 500 *l.* bonds have been sold for less than 100 *l.*

Henry Selfe, Esq., called in; and Examined.

H. Selfe, Esq.

1432. *Chairman.*] WITH what bridge are you acquainted?—Kingston Bridge more particularly.

1433. You have heard the evidence given by the mayor of Kingston?—I have.

1434. Can you add anything to that?—I would remark that one reason that has rendered the toll on Kingston Bridge particularly obnoxious, is its continuance. The bridge has been built now 26 or 28 years; it was set forth at the time that the toll would be removed in a short time, but we have been for a great many years collecting nearly 2,000*l.* toll, and paying almost the whole of that amount upon interest. Although we now pay off 800 *l.* a year, we cannot always do that; at first we only paid 200 *l.* a year towards reducing the debt. If we could have paid that sum and redeemed the bridge at once, it would have been better than to be subject to a constant system of taxation.

1435. Mr. Alderman *Challis.*] Do you wish to pay off the debt on the bridge now?—We are anxious to do so.

1436. Can you supply the Committee with information as to the amount of the debt that remains to be discharged?—That has already been stated to the Committee.

1437. Mr. *Wilkinson.*] With whom rests the duty of settling the amount of the toll?—It is contained in the Act of Parliament obtained by the corporation.

1438. Is the toll fixed?—It is fixed.

1439. Have you any means of altering the toll?—I do not think we possess the power to do so. I have not looked at the Act of Parliament with that view; but I think that, even if we had the power, we could not put the toll lower than it is at present. With regard to the foot passengers, suggestions have been made as to making them pay once a day, but no scheme has been devised by which it could be done.

1440. Do not you think that, by lowering the toll on the bridge, you might possibly obtain a larger revenue?—I do not think so; a cart pays about 3*d.*, and it could not well pay less. All sorts of schemes are resorted to for the purpose of evading it; I have two places of business, and when I send my cart from one to the other, I bring a dozen men each way on purpose to save myself expense.

1441. That would not take place if the toll were more moderate; is it not like

like smuggling in that respect?—It is; but the toll could not well be put at less than 3*d.* *H. Selfe*, Esq. 22 June 1854.

1442. It would not be worth one's while to evade the toll if it were 2*d.*?—I think it would. The Government would directly receive the benefit of the abolition of the toll. It is astonishing to see the number of workmen who work at Hampton Court Palace and live at Kingston; there are no working-men's houses at Hampton Court, and they consequently pass and repass in the day. The Government contractors for carpenters', bricklayers', plaisterers', masons', and plumbers' work reside at Kingston occasionally, and their men reside mostly near their shops of work.

Jovis, 29° die Junii, 1854.

MEMBERS PRESENT.

Mr. Oliveira.	Lord Alfred Hervey.
Mr. Wilkinson.	Mr. Alderman Cubitt.
Lord Robert Grosvenor.	Mr. Jackson.
Mr. Pellatt.	

BENJAMIN OLIVEIRA, Esq., IN THE CHAIR.

Mr. *Thomas Ashby*, called in; and Examined.

1443. *Chairman.*] I BELIEVE you reside at Staines?—Yes, I do. Mr. *T. Ashby.* 29 June 1854.

1444. Will you be so good as to give the Committee any information which you possess, with respect to the condition of the bridge at Staines?—As regards the building, it is in a very good condition.

1445. Do you think that the people of your locality desire that it should be made free?—They do desire it.

1446. Was not a petition sent to the House of Commons, requesting that the bridge might be thrown open?—There has been a petition presented to The House generally, signed by all the inhabitants of Staines without exception.

1447. What is the general feeling with reference to the means that should be applied for the purpose of freeing the bridge?—There have been several objects named; one is the coal tax; another a county rate; another a district rate within 20 miles of the Post-office; but the general feeling of the people, as far as I can gather it, is that the coal tax should be continued.

1448. With a view not only to that, but other bridges over the river?—Yes.

1449. Are you acquainted with the financial condition of Staines Bridge?—Yes, I am.

1450. Have you any documentary evidence upon that subject?—I have not here any documentary evidence.

1451. Can you state any facts concerning the financial affairs of the bridge, from recollection?—The debt is 80,500 *l.*, borrowed upon bonds.

1452. When was the bridge built?—The Act passed in 1828, and the bridge was opened in 1832.

1453. Was it built by proprietors?—It was built by means of money borrowed on bonds; it was a mortgage of the tolls. There was not any speculation like that of a railway company.

1454. What have been the returns of the revenue?—The income at the time the bridge was built, and for about eight years afterwards, amounted to from 4,000 *l.* to 4,570 *l.* It was let every year, and the rent varied between those two sums.

1455. That would pay about 4 ½ per cent. upon the original capital?—It would.

1456. Mr. *Wilkinson.*] Was that 80,500 *l.* the whole cost?—It was the money borrowed. It was the whole cost of the construction of the bridge and of approaches.

1457. No part of the debt has been paid off?—None.

 1458. *Chairman.*]

Mr. *T. Ashby.*

29 June 1854.

1458. *Chairman.*] Have the tolls paid that amount of late years?—They have not.

1459. What have they paid for the last four or five years?—The money was borrowed at the rate of 4 ½ per cent., which continued to be paid up to the end of 1838. The receipts fell off in 1839, and from that period up to the 1st April 1840 only three per cent. was paid.

1460. Since that time what has been paid?—Two per cent. was paid from the 1st of April 1840 to the 28th of August 1841. Since that period only one per cent. was paid by the Commissioners when it was in their hands. At the end of 1852 one of the mortgagees filed a bill and obtained possession, and is now in possession of the tolls.

1461. That is to say, one of the bondholders?—Yes.

1462. Does he hold it in trust for his co-proprietors?—Yes, he does.

1463. It pays one per cent. only?—It paid one per cent. when managed by the Commissioners; the last payment they made was at that rate. Since it has been in the mortgagees' hands it has averaged about 1 ½ per cent.

1464. Has any calculation been made as to the terms upon which the mortgagees would be disposed to treat for the sale of the bridge to the public?—People vary in their opinions on that subject; it is impossible to ascertain.

1465. Has any attempt been made to negotiate with the mortgagees about the sale of the bridge?—There has not been any such attempt; but the bonds that have been sold of late have been sold at about 16 per cent. upon their original cost; that is to say, at a sixth part of their cost.

1466. That is to say, a bond for 100 *l.* was sold for 16 *l.*?—Yes. The last purchase which I know of was of a bond for 150 *l.*, which was sold for 25 *l.*, and I have heard of other bonds being offered at the same terms.

1467. Your opinion is, that in order to have the bridge thrown open the inhabitants would either bear a local rate, or would submit to a continuance of the coal tax?—I believe they would willingly.

1468. At the last meeting of the Committee, one of the witnesses said that a penny rate levied upon the two counties of Middlesex and Surrey for one year would be sufficient to open this bridge, and all the other bridges above Vauxhall Bridge. Have you made any calculation upon that subject?—I have not.

1469. Lord *R. Grosvenor.*] You are of opinion that the levying of the toll upon Staines Bridge interferes with the communication by carriages and horses in the district?—It is a great injury to our town.

1470. In what way does it injure the town?—It prevents people from coming to our shops; and it is a high toll, 6 *d.* per horse.

1471. Where would customers come from, were it not for the toll?—On the Surrey side they would come from Egham and Thorp, and all round the places on that side of the river.

1472. Where do these people now go instead of coming to Staines?—They go to Egham and Windsor, and to Chertsey, and the other places round.

1473. Do they escape toll altogether in those directions?—They do. I may mention that a person told me this morning that he lost three customers entirely in consequence of this toll.

1474. Mr. *Wilkinson.*] Has the toll always been the same?—I do not remember it ever being altered. I would just mention one thing: there is a new railway about to be opened in the course of 12 months, which will reduce the tolls very considerably.

1475. Lord *A. Hervey.*] How have you collected the opinion of the neighbourhood upon this subject?—Not by a public meeting, but by private communication.

1476. Do you think that the opinion which you have expressed is the general opinion of the neighbourhood?—I think it is.

1477. Lord *R. Grosvenor.*] During the sitting of this Committee there has been a good deal of talk about the matter?—There has been.

1478. Mr. *Wilkinson.*] Is it your opinion that the lowering of this toll would bring a larger amount of traffic on the bridge; do not you think the high toll prevents people from using the bridges?—The high toll keeps the traffic off, certainly; we cannot avoid our toll, but it prevents persons coming into our town.

1479. Do you think that there is traffic enough between Staines and the surrounding country to make the bridge pay if the toll were very much reduced?—

reduced?—If it were very much lower, the traffic into Staines would be increased.

1480. Might not an increase of income be derived from a lowering of the toll?—I think not.

1481. Mr. *Jackson.*] Do you think Staines would be benefited if the toll were taken off?—Undoubtedly.

1482. Mr. *Wilkinson.*] Can you account for the considerable falling off of the toll which has taken place since 1838?—It was caused by the opening of the railroad; it dates from that; the receipts kept up till the year 1838; in 1839 they fell from 4,000 *l.* to 2,700 *l.*, the following year to 2,000 *l.*, the next to 1,800 *l.*, the next to 1,600 *l.*, and they are now at about 1,200 *l.*

1483. What is the toll for foot passengers?—There is no toll on foot passengers.

1484. *Chairman.*] Has that always been so?—Always.

1485. That is provided in the Act of Parliament?—Yes.

1486. Lord *R. Grosvenor.*] Was there ever a free bridge there in your recollection?—No, there has always been a toll there; we have unfortunately had five bridges on that spot in my time.

1487. What was the cause of that?—In the first instance a stone bridge was built, and instead of piling it properly, they sunk it in caissons of piles, and those piles gave way after the bridge was built.

1488. That arose from the insecurity of the foundations?—From the insecurity of the foundations. The second was an iron bridge, and one of the abutments gave way.

1489. *Chairman.*] Can you give us any account of the financial condition of the bridge?—I was able to ascertain the income for the last five years; the average of the last five years has been upwards of 1,250 *l.*

1490. Which pays about one per cent. upon the original capital?—Yes; I hold a paper in my hand containing a statement of the revenue of the bridge from the commencement.

1491. Lord *R. Grosvenor.*] Will you hand that paper in?—

[*The same was delivered in, and is as follows:*]

STAINES BRIDGE BONDS, £. 80,500, at 4 ½ per Cent. Bridge opened 23 April 1832.

	Income.	
	£.	
1829	4,285	
1830	4,545	
1831	4,570	
1832	4,275	
1833	4,305	
1834	4,220	
1835	4,230	
1836	4,335	
1837	4,225	
1838	4,035	Interest at 4 ½ per cent. paid on the bonds up to 31 December 1838.
1839	2,714	
1840	1,990	Three per cent. per annum paid on account of interest from 31 December 1838 to 1st April 1840.
1841	1,872	
1842	1,635	
1843	—	Two per cent. per annum paid on account of interest from 1st April 1840 to 28 August 1841, and only one per cent. afterwards paid by the commissioners.
1844	—	
1845	—	
1846	—	
1847	—	The tolls have been received by the mortgagee in possession since the year 1842.
1848	1,197	
1849	1,252	
1850	1,278	
1851	1,286	
1852	1,264	
1853	1,538	The camp at Chobham increased the income about 300 *l.*

Average annual expenditure, about 90 *l.*

Mr. *Frederick Ashby*, called in; and Examined.

Mr. *F. Ashby.*

29 June 1854.

1492. *Chairman.*] HAVE you anything to add to the evidence given by the last witness?—In allusion to the injury that the toll causes to the town, I may state that it keeps out a good connexion in the neighbourhood of Englefield-green, more particularly, and Egham; and our shopkeepers feel this extremely. Rather than pay this toll of 6 *d.*, the people of this district go to Chertsey, several miles out of their way, and our town feels it very much indeed. As regards the locality, generally speaking, the toll has been very injurious.

1493. Mr. *Wilkinson.*] Generally speaking, is there not a repugnance to paying that toll greater than the amount of the toll would warrant?—I know that gentlemen sometimes drive up to the end of the bridge, and get out and walk over the bridge, rather than pay the toll.

1494. Has the opinion been expressed by the inhabitants of Staines that they would be glad to submit themselves to a general taxation by the coal tax, or a direct tax, for the purpose of freeing all the bridges from toll from London Bridge to theirs?—I believe they would entirely concur in such a measure.

1495. Lord *R. Grosvenor.*] That feeling is not confined to a measure for freeing those which we should call the out-of-town bridges, but it extends to the metropolitan bridges also?—Yes; they would bear an equal proportion of the burden if they were called upon to do so.

1496. Mr. *Wilkinson.*] There is no other bridge required in your neighbourhood?—No, I think not at all.

1497. Mr. *Jackson.*] If the increase of population between Staines and London Bridge should require other bridges to be built, you would not object to bear your share of the taxation necessary for that purpose?—I think not at all.

1498. *Chairman.*] Which would be the more popular tax, if I may use the term, a continuance of the coal tax or a special rate?—A continuance of the coal tax.

Edward Wilson, Esq., called in; and Examined.

E. Wilson, Esq.

1499. *Chairman.*] I THINK you reside in Walton?—I do.

1500. Will you give the Committee your view as to the feeling in the neighbourhood about throwing open the bridges?—Walton Bridge is a very old bridge; I cannot tell you the date of the first Act, but I know that it was renewed by a second Act of Parliament to the relatives of the former proprietor, Mr. Dacre.

1501. When did the renewal take place?—I cannot state the date of it.

1502. Lord *R. Grosvenor.*] Was the bridge built and sustained by private enterprise?—It was; and is so to this date.

1503. *Chairman.*] Will you tell the Committee by what Act of Parliament the bridge was built?—I cannot; probably Mr. Drewett, who is a resident of Walton, can give the Committee the best information as to that. I understand that it is farmed for 300 *l.* a year to a man of the name of White, who himself takes the tolls.

1504. Is the toll on this bridge felt to be a great grievance?—A very great one; in fact it almost shuts off the Middlesex side of the river from the Surrey side; it is midway between Sunbury and Shepperton, and it is the nearest communication from a very great part of Surrey to what used to be the Great Western Road by Bedfont, and also to Uxbridge, and all that part of Middlesex. The bridge itself forms a very steep acclivity, and the toll-house is situated immediately at the foot of this steep acclivity on the Middlesex side, and is certainly very dangerous.

1505. Lord *R. Grosvenor.*] Can you inform the Committee in what state the bridge is?—It is not in a good state of repair.

1506. Would it not be advantageous to build a new one?—The present one answers its purpose very well; but I cannot say whether a new bridge would be desirable or not.

1507. Is there much traffic over it now?—At present there is very little.

1508. If this bridge were thrown open, together with all the other bridges, so that they would compete fairly one with another, would the traffic over Walton Bridge

Bridge increase much?—Very considerably; it would be the great thoroughfare from this neighbourhood to the greatest part of Middlesex.

1509. By which way do the inhabitants now go to Middlesex?—They avoid the toll by going through Weybridge and over Chertsey Bridge, which is a free bridge, but it is a very long way round; the distance that would be saved by going over Walton Bridge instead of Chertsey Bridge, would be at least one mile and a half, or two miles.

1510. Is there any heavy traffic in that part of the country?—There would be a great deal of local traffic. There are very large brickfields on the Middlesex side of the river, and it is also a very large agricultural district, so that the traffic by Walton Bridge, if it were thrown open, would be very great.

1511. Would you not regard it as a great disadvantage to heavy traffic to have to cross a bridge with a great acclivity?—It is; but I attribute the dislike of the gentry to going over the bridge very much to the fact of the traffic not being large enough to keep a person always on the look-out, as they are in the immediate neighbourhood of the metropolis. The toll-gate is kept locked, and parties have to wait continually for the opening of the gate.

1512. Mr. *Wilkinson.*] If it is on a steep acclivity, and there is a toll-house in a position which you describe as dangerous, the bridge does not answer its purpose particlarly well?—The removal of the toll-house would remove that one particular objection; I conceive there might be engineering difficulties on the Middlesex side, in reducing that acclivity. I do not give a professional opinion upon that point, but the Middlesex side is very flat.

1513. *Chairman.*] Has any attempt been made by private individuals to throw the bridge open?—I have not heard of any.

1514. It is producing about 300 *l.* a year?—I understand that it is let for that; I would just mention one local grievance that we suffer from the toll. Our post is at nine o'clock in the morning, and six in the afternoon, but letters posted by six o'clock do not go out of London the same evening; but if we could send over to Sunbury by three o'clock the letters would go out the same evening, and if we could do that without paying this toll it would be a great convenience.

1515. Mr. *Jackson.*] The toll is in reality a public obstruction?—In that respect, decidedly.

1516. Lord *R. Grosvenor.*] Do foot passengers pay the toll?—They pay ½ *d.* each way.

1517. Mr. *Jackson.*] Have you ascertained the feeling of the inhabitants of Walton and the neighbourhood with reference to imposing a rate in order to have the bridge thrown open?—I think it would be an unpopular measure for the inhabitants of the immediate locality alone to be rated. They look at the removal of the toll as a benefit, not to themselves alone, but to the public generally in the counties of Surrey and Middlesex. They are also victims (if I may so call it) to Kingston and Hampton Court Bridges; for their direct communication with London is across those two bridges, and in order to avoid them they are obliged to go through the Moulseys, which is a round of about two or three miles.

1518. Would they have any objection to share in a rate in common with others to open all the bridges over the Thames from London Bridge to Staines?—If it were a county rate on Middlesex and Surrey, I do not believe that there would be any objection on their part to it; but undoubtedly the most popular course would be the extension of the coal tax, since it would be continued for so very short a period that it would not be felt.

1519. You think that they would willingly be subject to any tax, direct or indirect, for the purpose of throwing the bridges open?—Undoubtedly.

1520. Mr. *Wilkinson.*] They would not object to bear their part in a general system of taxation?—Provided that it were fairly levied, they would not; but a tax merely laid on Walton on the one side, and on Shepperton and Sunbury on the other, would not be considered fair, and would be very unpopular.

1521. Mr. *Jackson.*] They would prefer a general rate spread over a large district?—Yes; I may say that I have considerable house property besides the house I reside in at Walton, and that therefore I speak with some authority on the subject.

1522. You would be a considerable ratepayer if any rate were laid upon the district?—My tenants pay their own rates.

E. Wilson, Esq.

29 June 1854.

1523. Still the amount of your lettings depends upon the rates that have to be paid, therefore it falls upon you as the landlord; do not you find that houses would not let so well if there were heavy rates?—Of course there would be some little alteration in that respect; but the present inconvenience is a great thing, which every one feels.

1524. Of course the amount which you get for the houses diminishes as their rent diminishes?—There is just now a great demand for houses in that neighbourhood, and that is one reason why I think it would be so desirable to try to get rid of the tolls. The whole of Oatlands Park, which formerly belonged to the Duke of York, is being built upon, and thus Weybridge is thrown open to this bridge; whereas formerly the communication was not so direct, on account of the park gates often being shut. The whole of the buildings will be rated; the facility, and the railway has now made it more important that this bridge should be thrown open. The inhabitants consider that having paid their quota to the coal tax for so long a period, without deriving any other advantage from it than that which everybody within the area of 20 miles derives from the improvements which have been made in London and the West End, they ought now to have some little advantage from that tax in the removal of the obstructions which press individually upon themselves.

1525. You want it to be applied more generally than it has hitherto been?—The improvements to London Bridge, and New Oxford-street, and other facilities for getting into the City, which have been created by means of this tax, is undoubtedly an advantage to those living within an area of 20 miles; but they would be of greater advantage to the immediate inhabitants of Walton if Kingston Bridge, and Hampton Court Bridge, and Walton Bridge were thrown open.

1526. You have stated that you do not know the dates at which the Acts of Parliament for constructing Walton Bridge were passed?—No; but the date of the petition states both the original building of the bridge, and also the time when the second Act of Parliament was obtained. There used formerly to be a ferry there, and Julius Cæsar crossed the River Thames just above the site of this bridge at a place which is called the "Coway Meadows;" and a short time ago there was one of the remaining stakes with which the river was staked in order to oppose his progress. I find that the first Act passed for the purpose was the 20th Geo. 2, c. 22, and the second was the 20th Geo. 2, c. 32.

Francis Jackson, Esq., called in; and Examined.

F. Jackson, Esq.

1527. *Chairman.*] YOU reside at Hampton?—I do.

1528. Your evidence therefore will refer principally to Hampton Court Bridge?—Principally; but I have lived in the neighbourhood all my life, and know all the bridges.

1529. When was Hampton Court Bridge built?—This is the only Act with respect to it which I could obtain (*producing the same*). By this Act it appears that the bridge was built in the 23d Geo. 2.

1530. Was it built by means of shares?—It was built under a special Act of Parliament granted to a gentleman named Mr. Clark. In the Act there is a proviso that the Crown shall, at the expiration of 26 years from the period of building it, be empowered to buy the bridge upon paying the expenses of building.

1531. Lord *R. Grosvenor.*] Will you read the title of the Act?—It is the 23d Geo. 2, c. 37. "An Act for building a Bridge across the River of Thames, from Hampton Court, in the County of Middlesex, to Moulsey, in the County of Surrey."

1532. Mr. *Jackson.*] Is it your opinion that, if this bridge were thrown open, in company with the other bridges over the Thames, the inhabitants of your district would be prepared to pay their quota of the taxation necessary for that purpose?—Unquestionably; there is a unanimous opinion to that effect among the inhabitants of the district. I have an opportunity, professionally, of knowing the feeling of the whole of the neighbourhood, perhaps better than most individuals, and I think that as to this subject it is unanimous.

1533. Whether it were for the purpose of freeing all the bridges which now exist from London Bridge to Staines, or for the erection of any other bridges that might be necessary, you think that the inhabitants of this district would be willing

willing to pay their quota of the taxation?—I think they would, almost one and all. I have had ample opportunity of judging on the subject, perhaps better opportunity than most individuals, and my opinion is, that the general feeling would be, in the first instance, that the expense should be borne by means of the continuance of the coal tax for a limited period; that if that were not provided for by that means, a county rate upon both the counties of Middlesex and Surrey should be resorted to; and that if that failed, sooner than not have open communication between the counties, we would submit very cheerfully to any tax that The House should think fit to inflict, be it a local tax or a general tax. But we certainly think that the bridge should be thrown open.

1534. Do you consider that the want of sufficient communication across the river injures the property in your neighbourhood?—Certainly. The injury that I individually sustain is so great, that I would gladly give 300*l.* or perhaps 500*l.*, in order that the Hampton Court Bridge might be thrown open. I am the largest house proprietor in the parish of Hampton, and a very large proprietor in the parish of Moulsey also, and I would very willingly give that sum to aid in the throwing open of the bridge.

1535. That is because you find the toll so serious an injury to your property?—It is ruin to the property in the neighbourhood. For instance, Hampton Court Palace is on one side of the bridge and the railway terminus is on the other, and the parties residing in Hampton Court Palace and the owners of property there have to pay the toll daily in going backwards and forwards to London. There is another very great inconvenience arising from the toll: of course, Hampton Court Palace is a large place, and the Middlesex side of the river is also very populous, much more so than the Surrey side. At Hampton Court there are innumerable workmen employed, and there are no lodgings to be had on the Middlesex side. Moulsey is close; and every man who goes to work at Hampton Court has to pay the toll twice or three times a day backwards and forwards. The toll is a halfpenny on a week day, and a penny on the Sunday.

1536. Either as the owners of houses and property, or as producers and consumers, the inhabitants of the neighbourhood all find this tax on the bridge to be a serious injury?—Most certainly; a workman told me last week that it cost him 6*s.* or 7*s.* a week (he working at Hampton Court) to go backwards and forwards across the bridge. He had to go at breakfast-time and at dinner-time. Then again, it is a serious thing with regard to a place of worship. Moulsey has a very small church, and the inhabitants are obliged to go to the Middlesex side in order to attend a place of worship.

1537. Mr. *Wilkinson.*] How do you account for the fact that the inhabitants have not taken some steps to free themselves from this inconvenience?—They have not done so for the best of all possible reasons. This bridge when it was built cost, I suppose, 7,000*l.* or 8,000*l.*, and it is now let for somewhere about 100*l.* a year; so that the expenditure which would be required to purchase it would be so great, that there is no possibility that any private individual would encounter it. Of course it would be but right that the owner of the bridge should make the most of his property. The bridge is in a very dilapidated state; if you go over the bridge with a loaded waggon, you would see that, as it is going over, the bridge would shake just as I can shake this table, and you would be afraid to go over it. I have seen within this last year holes made right through the bridge by carts going over it.

1538. You have stated that you are acquainted with several of the bridges; can you tell the Committee what you think would be the cost of redeeming all the rural bridges?—No, I cannot say what would be the cost of redeeming them; I should say that the cost of redeeming Hampton Court Bridge would be somewhere about 5,000 *l.* or 6,000 *l.* Under the Act of Parliament, 5,000 *l.* or 6,000 *l.* ought to purchase it.

1539. It may be purchased by the Crown according to the Act?—Clearly, the Crown is authorised to purchase it at any time.

1540. Lord *R. Grosvenor.*] Has that Act ever been renewed?—No, it has never been renewed. It enacts that, after the expiration of 26 years from the building of the bridge, the Crown shall have the right of purchasing it at the original cost.

1541. *Chairman.*] The original cost was 7,000 *l.*, was not it?—I presume so; that has been stated to me, and I believe that that was the original cost.

F. Jackson, Esq.

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1542. Are you acquainted with Kingston Bridge?—Thoroughly.

1543. Is the same feeling prevalent in that neighbourhood with regard to the opening of the bridge, as in the neighbourhood of Hampton Court Bridge?—Quite so; the toll on that bridge is also injurious to Hampton Court. There is a market at Kingston, but of course the toll entirely prevents all the labouring classes from buying their commodities to the best advantage. Then with regard to the Post-office, there is a very great objection on that score, and for this reason: the Post-office on the Middlesex side of the river at Hampton Court is within 50 yards of the bridge, and all persons residing in the most populous part of Moulsey are compelled to pay a toll in order to put a letter in the post, although they may live only 100 yards from the Post-office, because there is no Post-office in Moulsey, except at the public-house at the extreme end of the village.

1544. The railway terminus is on the Surrey side of the river, is not it?—Yes, and Hampton Court on the Middlesex side, and all communication between the two is completely cut off.

1545. Would one bridge, if it were free, afford sufficient accommodation to the neighbourhood without requiring any other?—Yes.

1546. Lord *R. Grosvenor.*] Is it not the fact that Hampton Court Bridge was badly built?—It is in a very dilapidated state; and the toll collectors are so strict, that I have within this last two years seen a soldier summoned before the bench of magistrates to pay the toll, although soldiers are exempt.

Mr. *Robert Smith,* called in; and Examined.

Mr. *R. Smith.*

1547. *Chairman.*] ARE you acquainted with Richmond Bridge?—I am.

1548. When was Richmond Bridge built?—It was in course of erection from 1774 to 1776.

1549. It was built under a private Act of Parliament?—Under a private Act of Parliament.

1550. To whom was that Act granted?—To certain commissioners named in the Act.

1551. What was the cost of the bridge?—I think it was about 30,000 *l.*

1552. Mr. *Jackson.*] Will you state the history of the bridge, specifying how the money was raised for its construction, what it has cost, and what is its present financial condition?—I believe that the sum raised was 30,000 *l.*; 5,000 *l.* was raised upon bonds, which appear to have been paid off; 20,000 *l.* upon the first tontine, which included 200 lives at 4 per cent.; and 5,000 *l.* upon the second tontine, also at 4 per cent. There were 200 lives in the first tontine, and 50 in the second, and there are now remaining only one in the first and two in the second, and they are upwards of 80 years old; one of the parties interested is nearly 80 years old, and the others are upwards of 80.

1553. When these lives drop, what will be the condition of the bridge?—It will be free.

1554. Is there any provision for the maintenance of the bridge in proper repair after that time?—Yes, there is a sum invested for that purpose.

1555. What is the amount of it?—£.14,000.

1556. What is it invested in?—In consols.

1557. In whose names is it invested?—In the names of the commissioners of the bridge.

1558. Do the powers of the commissioners continue after the debt is paid off?—Yes, they will, for the purpose of keeping the bridge in repair.

1559. Do you think that the amount vested in consols will produce a sum per annum sufficient to keep the bridge in order, and to pay all the charges incident thereto?—Yes; virtually, when one of the nominees, the only survivor in the first tontine, dies, the bridge will be free.

1560. Do you think that if Parliament gave the power to throw open the bridges on the Thames, the inhabitants of Richmond would have any objection to give up that 14,000 *l.* and come under the rate together with their neighbours, for the purpose of throwing open the bridges?—I think they would; they would rather not be taxed any further; they think that they have done quite sufficient in having kept their bridge in repair.

1561. You do not suppose that the opinion of the inhabitants, generally, would be opposed to the levy of a rate over an area for the purpose of keeping the bridges in repair?—Certainly as to Richmond.

1562. Have

1562. Have the inhabitants of Richmond any interest in the other rural bridges?—I think not.

1563. Then so far as Richmond is concerned, you think that a county rate would rather be an injury?—Certainly.

1564. In fact, the bridge in the course of a year or two will probably be free?—There is only one life in the first tontine, and the old lady thus interested was 80 years old last January, and at her death the bridge will be virtually free, for there is only 200 *l.* a year to be paid to the other two nominees, which I consider the dividends will be sufficient to pay without any toll.

1565. What is the table which you hold in your hand?—It is a statement of the amount of the tolls which have been received for the last four years, and of the rate of toll which is levied under the Act.

1566. Will you hand it in?—

[*The same was handed in, and is as follows:*]

RECEIPTS FROM TOLLS.

	£.	s.	d.
1850	745	7	1
1851	858	17	–
1852	813	18	6
1853	825	4	–

RATE OF TOLL LEVIED UNDER THE ACT.

TOLLS.	AUTHORISED BY ACT EACH WAY.	AUTHORISED ON SUNDAY EACH WAY.	NOW TAKEN ONLY ONE WAY.
	s. d.	s. d.	s. d.
Carriage and six	2 6	2 6	1 6
Carriage and four	2 –	2 –	– 6
Carriage and two or three	1 –	1 6	– 3
Carriage and one	– 8	1 –	– 1½
Waggon and four or six	1 6	– – –	– 6
Waggon and two or three	1 –	– – –	– 3
Waggon and one	– 8	– – –	– 1½
Higgler's cart	– 6	– – –	– 1½
Horse, mule, or ass	– 2	– 2	– 1
Foot passenger	– –½	– –½	—
Ditto, with wheelbarrow	– 1	—	
Neat cattle - each	– 2	– 2	– –½
Calves, hogs, sheep per score	– 6	– 6	– 2

1567. Mr. *Wilkinson.*] What is the present amount of the tolls?—For the last year it was 825 *l.*; but since the 1st of May last, when the toll upon foot passengers was taken off, though I do not think that that alteration is the sole cause of the decrease, the tolls have decreased 20 *l.* a month.

1568. Does this lady, who still continues on the tontine, receive the amount of the tolls, or a fixed annual sum?—She receives a fixed annual sum; it is now 800 *l.* a year.

1569. Mr. *Jackson.*] What was the original amount that she invested in the bridge?—£.100.

1570. And she is now receiving 800 *l.*?—Yes; she has received one half-yearly payment at that rate. In the year before she received 400 *l.*, for there were then two survivors.

1571. *Chairman.*] Would the 14,000 *l.* which has been invested in Consols by the

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the commissioners of the bridge pay the money requisite for keeping the bridge in repair?—Yes.

1572. Is not the gradient of the bridge on the Surrey side rather steep?—It was about 20 years ago, and it has been rendered rather unsightly towards the River Thames in consequence of that; for there has been a brick wall built up as a balustrade.

1573. Is there not now a great descent on the Richmond side of the bridge?—There is a very great descent.

1574. Cannot that defect be remedied?—I am afraid that it cannot. The commissioners consulted the engineer of the bridge about it some years ago, and he thought that it could not be remedied.

Major *Charles Lestock Boileau*, called in; and Examined.

Major *C. L. Boileau.*

1575. *Chairman.*] WITH what bridge are you acquainted?—I have been for 15 years chairman of the Hammersmith Bridge Company.

1576. Is not that a chain bridge?—It is a suspension bridge supported by chains.

1577. Hammersmith Bridge was built under an Act of Parliament by shares?—Yes; it was built by shares in 1824.

1578. Will you be so kind as to give us the financial history of the bridge?—The cost of the bridge was about 50,000*l.* There are 3¼ miles of road which we have to maintain, our Act of Parliament having authorised us to make approaches as well as to build the bridge; and these roads passed through property which it was necessary for us to purchase; there were several houses which we had to pull down on the Hammersmith side of the river, and there was a great destruction of property. The cost of this and the roads was about 15,000*l.* Then besides that, the expenses of the Act of Parliament which we had to obtain, and the engineering and surveying expenses, and the difference between the purchase and the sale of the land which we had to buy, amounted to about 20,000*l.*, making altogether 85,000*l.* The circumstances are simply these: By the Act of Parliament we, in passing through the estate of Mr. Hoare, who held the great part of the land in Barnes, through which we had to pass, were required, if Mr. Hoare wished it, to buy the whole, instead of buying only what we wanted. He chose that we should buy the whole; and having done this, and made the approaches to our bridge over a part of the estate, we could not sell the remainder of it at the same price as the price at which we had bought it in its entirety. The 20,000*l.* set down in our accounts for law expenses, engineering, surveying, and so on, included the difference between the purchase of Mr. Hoare's estate and other estates, and the sale of that part of the land which we disposed of after having made the approaches.

1579. Mr. *Jackson.*] The whole cost of the bridge was 85,000*l.*?—Yes, with the roads.

1580. What has been the income of the bridge?—It has averaged for the last seven years 3,000*l.* a year; it is increasing.

1581. Is that net income?—It is the gross.

1582. What do the charges upon it amount to?—About 1,500*l.* a year.

1583. *Chairman.*] Do you publish annual reports?—They are not printed; we have them in the minute-book.

1584. Will you give the Committee a copy of your last year's reports?—These would not give you the particulars that you are now asking for, because the report only embraces the currencies of the year, and does not include the financial statement of the whole expenses of the company. I could send to you our printed balance-sheet; but even that would not give you all that is necessary.

1585. Mr. *Jackson.*] According to your statement the bridge cost 85,000*l.*; the gross revenue is 3,000*l.* per annum, and the expenses 1,500*l.*, leaving 1,500*l.* as the net annual revenue?—It is more than that now.

1586. What was the gross revenue for last year?—About 3,700*l.*; we have divided 28*s.* a share upon 1,578 shares. Our original capital, as I mentioned, was raised by shares. There were 1,600 shares originally; but 22 were forfeited, so that they have been reduced to the present number of 1,578, upon which we paid last year a dividend of 28*s.* per share. The 80,000*l.* of original capital was raised

raised in 1,600 shares of 50*l.* each; in addition to which there was a sum of 15,000*l.* borrowed to buy Mr. Hoare's property, and the sale of that part of it which we did not require for our roads only realised about 10,000*l.*; so that there was an additional expenditure of 5,000*l.* out of income, which, added to the 80,000*l.*, makes 85,000*l.*

1587. Is there any debt upon the bridge property now?—None.

1588. The bridge is in the position of having cost 1,578 shares of 50*l.* each?—A little more than that, inasmuch as there was some money paid upon the 22 shares. We might reckon the cost of the bridge at 1,600 shares of 50*l.* each besides the 5,000*l.*, which arose from the circumstance that of the 15,000*l.* borrowed only 10,000*l.* was paid off by the resale of property, and the remaining 5,000*l.* was paid out of the income which would otherwise have gone to the proprietors of the bridge.

1589. The 5,000*l.* is paid off?—That debt has been paid off out of the revenue of the bridge.

1590. Lord *R. Grosvenor.*] Are the tolls at the present moment mortgaged for 80,000*l.* or 85,000*l.*?—The capital really paid by the proprietors amounts to 85,000*l.*

1591. What is the present amount of your capital?—£. 85,000.

1592. Of which they have redeemed 5,000*l.* by taking it out of the revenue?—Yes, to meet the amount required for the purchase and resale of the estate in addition to the expense of building the bridge and constructing the roads. The bridge and the approaches have cost the proprietors 85,000*l.*, of which they paid 80,000*l.* in shares and 5,000*l.* out of their revenue.

1593. *Chairman.*] Are the tolls increasing?—They are increasing at the rate of 150*l.* a year.

1594. What dividend do they pay?—Twenty-eight shillings per share.

1595. Have your proprietors any desire that the bridge should be freed?—I think the proprietors are very indifferent about it; of course, if they got the fair value of it, they would be disposed to part with it.

1596. What is the market price of the shares?—About 28*l.* per share, to pay five per cent.

1597. Do you think that there is a desire by the proprietors of the houses on the Surrey side to have the bridge opened?—Among those immediately adjoining the bridge, I do not think that there is; I happen to live there myself, and am the proprietor of a good many houses there, and we find that the toll keeps our side very quiet and select. If you go on this side of London from Piccadilly to Hammersmith you will see continuous lines of houses, but directly you cross Hammersmith Bridge you are in the open country free from the annoyances of Town.

1598. Is not there an estate in that neighbourhood called the "Castlenau Estate"?—Yes, I am the proprietor of that estate, and I speak particularly with reference to that estate. The houses are near the bridge, and I do not think my tenants would, upon the whole, desire the toll to be taken off, because it keeps the place free from the annoyances which form an objection to living on the Middlesex side.

1599. Do the bridge authorities make any exemption in favour of the property you possess?—None at all.

1600. The occupiers of your houses pay the same toll as other people?—Everybody pays the same toll.

1601. Mr. *Wilkinson.*] What is the toll?—For a single horse and carriage, 4*d.*; and for two horses, 6*d.* It is a much less toll than those of Putney Bridge and Kew Bridge, which are the two bridges on either side of us.

1602. Do foot passengers pay a toll?—Yes, a ½*d.*, and one horse 1½*d.*, when single, and 4*d.* when drawing.

1603. The bridge is very sound?—Yes, very sound; we make annually such repairs as are necessary. A few years ago we made a thorough repair, in so far as originally it was constructed with wooden beams to support the platform, and as in the course of 20 years they had almost perished, we substituted iron girders, so that the bridge is in a sound state.

1604. Immediately adjoining the bridge, on the Surrey side, you have a freehold land estate?—It is chiefly land held under the Dean and Chapter of St. Paul's.

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1605. Has not that been purchased by a freehold land society?—A small portion. It belonged to the Dean and Chapter of St. Paul's, and when the Hammersmith Bridge Company bought the whole of the estate, of which this is a portion, they sold a part to the West Middlesex Water Company, and that was enfranchised from the Dean and Chapter of St. Paul's, consequently that portion is freehold; but all the rest remains under the Dean and Chapter. A small portion of the land which the West Middlesex Water Company bought and enfranchised, they have sold to a land society.

1606. You think if the bridge were thrown open there would be a vast increase of traffic, which would rather spoil the seclusion of your houses?—I do not think that there would be a vast increase of traffic. It would interfere with the comfort of the inhabitants, as organ boys, and beggars, and other people of the same description would come there. The removal of the tolls would not much increase the traffic, but it would interfere very much with the privacy of families and children who go there to live in quiet.

1607. Mr. *Jackson.*] Do not you think the inhabitants of Hammersmith would desire to have the tolls removed?—I dare say they might, but I do not think it would much affect them, because the inhabitants have their chief attraction in London; the attraction is not so much to the other side of the water.

1608. If the toll was removed, would it not facilitate the building in the neighbourhood of your part?—Yes.

1609. Would not there arise a benefit to the traders of Hammersmith from supplying the parties who would go there?—That is true; but as the buildings increase on my side of the river, we shall have shops there. I have built several shops myself; and some will be built upon this land, which is about to be built upon by a building society; they have planned out the ground for the erection of shops which will supply the locality.

1610. Would not the inhabitants be debarred from the advantage of their competition by the toll?—Certainly there would be an advantage in the competition; but we do not find any impediment from the toll at present; the Hammersmith people supplied us before my shops were built; and even now the Hammersmith tradesmen do a good deal of business in my neighbourhood.

1611. *Chairman.*] You do not make any exception in favour of the Hammersmith people?—Not at all; there is no exemption, not even for the directors of the company.

1612. Mr. *Wilkinson.*] Is there any communication by post on the Hammersmith side of the river?—It is rather quicker on that side of the river than on ours, inasmuch as the General Post-office send the letters for us on to Sheen on our side, for there is no delivery of the letters from Hammersmith into Surrey; and when letters are addressed to me at Castlenau, near "Hammersmith," they are never sent across the river, but are returned to the London Post-office, and re-dispatched to me.

1613. Where is your nearest post-office?—On my estate there is a post-office established, and the postman who calls for the letters is a postman from the Surrey side (from East Sheen), not from Hammersmith. It is rather an inconvenience to us, inasmuch as Hammersmith is close to us, whereas our letters are taken to Sheen, which is some way off, and causes delay.

1614. Mr. *Jackson.*] Do you think the bridge makes a difference in that respect?—It is not on account of the toll that the inconvenience arises, but on account of the regulations of the General Post-office; of course I do not know the reasons of their regulations.

1615. Mr. *Wilkinson.*] You, having to send letters to London, would wish to send them more frequently to Hammersmith than you do now?—Yes; the Post-office would of course receive letters at Hammersmith, and if we wish to send letters to Hammersmith the halfpenny is a small consideration; but it would be a great convenience to us if the General Post-office would allow our letters to be dispatched to and from Hammersmith in the regular course of delivery.

1616. *Chairman.*] Do the Post-office send your letters by railway?—They send them to Sheen; and I believe they are still carried by a horse-boy, or in a cart.

1617. Lord

Major *C. L. Boileau.*

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1617. Lord *R. Grosvenor.*] Is the bridge in a good state of repair?—Perfectly so.

1618. What does it cost you to keep it up?—Altogether, with the roads, 1,500 *l.* a year.

1619. Have you a return of the whole of the income of the trusts since the commencement?—I have.

1620. Will you hand it in?—

[*The same was handed in, and is as follows:*]

HAMMERSMITH BRIDGE.

The Scheme was projected in 1824. Bridge built and opened to the Public, 7th October 1827. Capital subscribed, 80,000 *l.*, in 1,600 shares at 50 *l.* each.

		DIVIDENDS.	BRIDGE REPAIRS.
		s.	£. *s.* *d.*
Dividends: 1st	1828	15 per share	—
2d	1829	30 „	112 11 1
3d	1830	30 „	235 17 –
4th	1831	20 „	30 2 8
	1832	- - -	113 13 2
	1833	- - -	232 14 2
	1834	- - -	37 2 4
5th	1835	10 per share	92 5 1
6th	1836	10 „	62 15 2
7th	1837	20 „	131 7 1
8th	1838	20 „	363 19 4
9th	1839	20 „	180 10 9
10th	1840	20 „	79 18 9
11th	1841	20 „	308 10 1
12th	1842	25 „	94 5 3
13th	1843	20 „	1,913 13 9
14th	1844	20 „	1,803 18 4
15th	1845	20 „	1,138 9 8
16th	1846	20 „	282 15 8
17th	1847	10 „	35 16 –
18th	1848	20 „	26 10 2
19th	1849	15 „	712 2 5
20th	1850	20 „	401 2 1
21st	1851	20 „	47 1 5
22d	1852	25 „	47 14 7
23rd	1853	25 „	75 1 10
24th	1854	28 „	114 16 7
	£.		8,674 14 5

Average 321 *l.* per annum.

1621. *Chairman.*] Supposing that a proposition were made to the proprietors to sell the bridge, do you think that the present market price of 28 *l.* a share would be a reasonable offer to make?—No; because the tolls are yearly increasing.

Mr. *Evan Hare,* called in; and further Examined.

Mr. *Evan Hare.*

1622. *Chairman.*] HAVE you any further information to give to the Committee?—Yes. When I attended here last Thursday, I was requested on this occasion to bring the opinion of the inhabitants of Putney as to the coal tax, or the paying a county rate; and I hold in my hand the resolution passed at a general meeting specially called, and held in the vestry-room, on the 28th of June 1854.

1623. Will you read it?—"It was proposed by Mr. Reed and seconded by Mr. William Aviss, that this meeting considers a county rate preferable in lieu of a coal tax, which would be objectionable, unless a portion of the coal tax already leviable and received by the Corporation of London be applied towards the redemption of Putney Bridge tolls, as well as the tolls of the other metropolitan bridges."

Vide Appendix, No. 9.

1624. Lord *R. Grosvenor.*] They think the county rate better than the coal tax?

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tax?—They think that the county rate would be less objectionable than the coal tax, unless the 100,000 *l.* a year which the City of London already receive should be in part applied towards the redemption of those tolls. That was the feeling of the inhabitants expressed at the meeting.

1625. Mr. Alderman *Cubitt.*] That is to say, they would prefer a general rating to a special coal tax?—Yes; unless it should be so arranged that the City of London would apply part of the funds which they have received from the coal tax towards that object.

1626. If the resolution had been put in this way: that the coal tax as now leviable be continued, and made applicable to the bridges, what do you think would have been the feeling of the meeting?—I do not know; but I think that the feeling of the inhabitants would be favourable to an extension of the coal tax for two or three years.

1627. *Chairman.*] Have you any further papers to put in?—The secretary of the bridge is here to give information as to the statistics of the bridge; the cost of Putney Bridge is stated in the petition at 27,000 *l.*

1628. Mr. *Wilkinson.*] Can you give any information as to the probable price that would be asked for it?—I think the market-price would be something like 70,000 *l.*; that would be 30 years' purchase upon about 2,000 *l.* a year, which is the net income. The bridge was built under two Acts of Parliament; one was passed in the last year of the reign of George the Second, and the other in the first of George the Third; they were two private Acts.

Mr. *Henry Chase,* called in; and Examined.

Mr. *H. Chase.*

1629. *Chairman.*] WILL you be so good as to give to the Committee your account of the cost of Putney Bridge?—About 30,000 *l.*; there were 30 shares of 1,000 *l.* each.

1630. Have you any document containing a return of the income of the bridge?—I hold in my hand returns of the gross and net receipts up to the year 1850, and I believe very little variance has taken place since.

1631. Will you hand them in?—

[*The same were handed in, and are as follow:*]

Account, No. 1.

Showing the Gross Receipts of *Putney* and *Fulham* Bridge for Seven Years, from Lady-day 1844 to Christmas-day 1850, inclusively.

	£.	s.	d.
From Lady-day 1844 to Christmas 1844, inclusively - - - -	3,672	17	4
From Lady-day 1845 to Christmas 1845, inclusively - - - -	3,827	9	6
From Lady-day 1846 to Christmas 1846, inclusively - - - -	3,873	11	1
From Lady-day 1847 to Christmas 1847, inclusively - - - -	3,421	3	-
From Lady-day 1848 to Christmas 1848, inclusively - - - -	3,272	6	4
From Lady-day 1849 to Christmas 1849, inclusively - - - -	3,447	14	6
From Lady-day 1850 to Christmas 1850, inclusively - - - -	3,285	16	5
Total - - - £.	24,800	18	2
Annual Average Gross Receipts for Seven Years - - - £.	3,542	19	9

Which, at 20 years' purchase, would produce 70,859 *l.* 15 *s.*, or 2,361 *l.* 19 *s.* 10 *d.* per share.

Account,

Mr. *H. Chase.*

29 June 1854.

Account, No. 2.

SHOWING the NET RECEIPTS of *Putney* and *Fulham* BRIDGE for Seven Years, from Lady-day 1844 to Christmas 1850, inclusively.

	£.	*s.*	*d.*
From Lady-day 1844 to Christmas 1844, inclusively	2,638	–	10
From Lady-day 1845 to Christmas 1845, inclusively	2,503	17	5
From Lady-day 1846 to Christmas 1846, inclusively	2,667	16	8
From Lady-day 1847 to Christmas 1847, inclusively	1,129	17	3
From Lady-day 1848 to Christmas 1848, inclusively	1,826	3	2
From Lady-day 1849 to Christmas 1849, inclusively	1,068	13	5
From Lady-day 1850 to Christmas 1850, inclusively	1,985	–	10
£.	13,819	9	7
Law expenses paid during the five years ending Christmas 1850 of an extraordinary and unusual nature, and not forming part of the usual working expenditure	1,001	3	2
£.	14,820	12	9
Annual Average of Net Receipts for the last Seven Years £.	2,117	4	8

Which, at 33 years' purchase, would be 69,868 *l.* 14 *s.*, or 2,329 *l.* 19 *s.* 2 *d.* (within a fraction) per share.

1632. Mr. *Jackson.*] What was the last dividend paid by the bridge?—It has averaged for the last three or four years somewhere about 64*l.* or 65*l.* a share.

1633. Upon the 1,000*l.* shares?—Yes.

1634. *Chairman.*] What was the last price for which one of those shares was sold?—Somewhere about 2,000*l.* In the Return I have handed in, I have taken the average of the cost and repairs at about 400*l.* a year, and the rates and taxes somewhere about 560*l.* a year, and the working expenses about 400*l.* a year, including the salary of the clerk and chief clerk. In fact, the rates and taxes for both parishes during this half-year have been 36*l.*

1635. What is the condition of the bridge?—The flooring is in a most excellent state of repair; we every year have an inspection as to the general state of the repair.

1636. Lord *R. Grosvenor.*] Have not great complaints been made with regard to Putney Bridge, as interfering with the navigation of the river?—It is not so much the bridge as it is the foundation of the river which interferes with the navigation; the bed of the river is almost dry, and the upper part is worse than we are. I was born almost at the bridge, and I have been there 50 odd years, and during all those years I never saw the tide so exceedingly low as it is now; so much so, that there is some talk of having a lock somewhere near this spot.

1637. My question had no reference to the tide, but it referred to the construction of the bridge, and the number of arches it has above water; has not that been frequently complained of?—It has.

1638. Mr. *Wilkinson.*] Has the alteration of the bed of the river affected the foundation of Putney Bridge?—In some measure it has, but in those places we throw in new stuff; when we drive in piles, if we find that there is any place where the gravel has been washed away, we remedy it, but the shallow part of the river is more below the bridge, so that it is difficult for steam-boats to go up.

1639. Lord *R. Grosvenor.*] What do you throw into the river?—Gravel, and other materials.

1640. You throw that gravel in to hold the piles?—The piles are, generally speaking, sunk eight or ten feet in the ground, besides being well placed.

1641. Mr. *Wilkinson.*] And they hold upon the gravel?—Yes; entirely of old gravel.

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gravel. We had a Government inspector some years ago, when some person made a complaint of it; he went down at the time we were making repairs, and he was perfectly satisfied.

Mr. *Charles Edward Gemmet*, called in; and Examined.

Mr. *C. E. Gemmet.*

1642. *Chairman.*] DO you produce the Acts of Parliament for building Kingston Bridge?—I do; one was passed in the 6th of George the 4th, and the other in the 11th year of George the 4th.

1643. Will you hand them in?—[*The same were handed in.*]

1644. The mayor of Kingston has given evidence upon the condition of the bridge. Have you any special thing to add to his evidence?—I have nothing special to add, except as far as regards the Act or matters connected with it.

1645. Have you any accounts that you can put in?—I have the yearly account from 1st of September 1852 to the 1st of September 1853.

Vide Appendix, No. 8.

1646. Will you hand it in?—[*The same was handed in.*]

1647. Mr. *Wilkinson.*] Do you know anything about the feeling of the inhabitants of Kingston as to the desirableness of freeing the bridge?—I attended a public meeting, at which they seemed very anxious to get rid of the toll.

1648. They were not particular as to what sort of tax it was by means of which this was done?—It was about two months since; they did not go into that part of the question.

1649. Of course they would like to have the bridge free, but were they willing to submit to the necessary impost?—Nothing was said upon that occasion. As regards Kingston Bridge, we borrowed the money of the Exchequer Loan Commissioners, and the Commissioners of Woods and Forests are our security for the repayment of it, so that we thought that it would be a very easy matter for them to take power to wipe off the debt.

Edward Tyrrell, Esq., was called in; and Examined.

E. Tyrrell, Esq.

1650. Mr. *Jackson.*] HAVE you heard the evidence given before this Committee?—Nearly all of it.

1651. You have heard the general opinion expressed by parties from the country and the metropolis as to the advantage of throwing open the bridges, and the willingness on the part of owners of property to submit to a general rate for the purpose of freeing all the bridges?—Yes.

1652. Do you think the City of London would concur with them in being ready to share that responsibility of freeing the bridges by a tax, whether a coal tax, or an annual tax?—That is a point upon which I can only give an individual opinion. I am not prepared to speak on behalf of the corporation, because I have not consulted them upon it; they would probably feel it hard that there should be a general rate upon the inhabitants of the City of London, because they have contributed themselves mainly to two of the large bridges across the Thames; I speak of London and Blackfriars, and they consider themselves liable to keep them in repair; therefore, they would probably consider it hardly fair that they should be included in any general system of taxation. My own opinion is, that if it was proposed to be done by a continuation of the coal tax, they would not object to pay their share with the other parties within the district of 20 miles round St. Paul's.

1653. You would not think it unreasonable that the whole of the metropolis should pay their share of the taxation, provided they pay a coal tax over the same area as it is now laid upon?—I should think it not unreasonable.

1654. Upon the whole, you are of opinion that a tax within an area of 20 miles round London, particularly the coal tax, if continued, would be a fair source from which the money for the purpose of freeing the bridges should be obtained?—I should say that that would be a fair tax.

1655. Are you of opinion that it would be an advantage to the whole community that a tax should be laid upon that area?—I should think so.

1656. Lord *R. Grosvenor.*] How much money spent for Blackfriars Bridge has been raised exclusively upon the inhabitants of the City of London?—I cannot give you the amount.

1657. Can you give me the sources from which it has been raised?—The money

money raised to redeem the toll was raised upon the coal tax, and the money raised for the large repair which took place some few years ago was raised upon the Bridge House property, held by the Corporation of London. *E. Tyrrell*, Esq. 29 June 1854.

1658. To what purposes have the Corporation the power to apply the proceeds of that property?—The property is charged for London Bridge; and has been applied by the Corporation of London for that purpose, and also for the repair of Blackfriars Bridge.

1659. Have you, in the course of this inquiry, given a statement of the origin of the Bridge House property?—I think Mr. Brand, who is the comptroller of the Bridge House Estates, was examined upon that point.

1660. Can you state whether the Bridge House property contains any other property besides what would be required in building bridges and making approaches to them?—As far as I am in possession of the facts, the property was either given or bequeathed by parties for keeping up old London Bridge.

1661. Then the property that was not the proceeds of the Bridge House toll can scarcely be said to be money levied exclusively upon the property in the City of London?—With regard to some part of the property, there appears to be no specific trust assigned; but it has always been applied to the repair of London Bridge.

1662. Have you the means from your office of giving to the Committee an approximate estimate of the amount required to purchase the tolls upon the whole of the bridges to which this inquiry has extended, or, if not, upon any portion of them?—We have no further means of information than the information which has been laid before the Committee in evidence.

1663. Will you have the kindness to obtain such an estimate for the Committee?—I will endeavour to do so.

1664. Mr. *Wilkinson.*] Your opinion is, that the great bulk of the so called inhabitants of the City of London generally live in the district within 20 miles round, and therefore use the bridges in crossing the Thames in that district?—Yes; since the establishment of railroads a vast number of persons, who use the City of London, and other parts of the metropolis, reside at a distance of from 10 to 20 miles, and come into town every day; which has always appeared to me one of the great reasons of the propriety of a circle of 20 miles radius round the City of London. The streets of London are quite large enough for the inhabitants themselves, but it is the vast concourse of people who come in from distant parts in the morning, and go back in the evening, and who come into the City in other parts of the day, which render the large improvements which have been made in the metropolis necessary.

1665. That consideration, therefore, renders the justice of a tax over that district plain?—Yes.

1666. Mr. *Jackson.*] Can you give the Committee an approximate estimate of what the Bridge House Estate would sell for, supposing that to be the fund, or to form part of the fund, from which the purchase money is to come?—I do not think the Corporation of London would be disposed to make a calculation of that sort, because it might be an admission that they were disposed to allow them to form part of the fund.

1667. It is applicable to no other purpose than the maintenance of the bridges?—London and Blackfriars Bridge.

1668. The Corporation consider it part of their revenue?—A statement of the proceeds of, and the charges upon it, has been given to the Committee.

George Roundell Burnell, Esq., called in; and Examined.

1669. *Chairman.*] WERE you present when Mr. Tite was examined before this Committee?—I was. *G. R. Burnell*, Esq.

1670. You remember, too, that he said that you could give us information with reference to the bed of the river which might be useful in this inquiry?—When Mr. Walker's Report was first presented to the Bridge House Estate, I took occasion to present a memorial to the Bridge House Committee, to call their attention to what appeared to me the necessity for fixing the bed of the river, so as to preserve the existing structures, both those over the river and those on the wharfs on either side. The Committee must be aware that subsequently to the

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demolition of old London Bridge a very remarkable change has been effected in the *régime* of the river itself.

1671. When you say the "*régime*," what do you mean?—The conditions of flow. It is a sort of engineering phrase to imply all the conditions of flow which affect the river itself.

1672. Lord *R. Grosvenor.*] You mean the daily action of the flux and reflux of the current?—Not only of the flux and reflux of the tide, but also the action of the land waters. It includes the action and reaction of the stream, whether of tidal or of land water, upon the bed and upon the banks; in fact, all the conditions of flow.

1673. In fact, the natural history of the river?—Precisely so.

1674. Will you give the Committee some information on that point?—I think that I should do so in the most satisfactory manner by reading some extracts from the note I presented to the Bridge House Committee. "'Since the year 1832,' to quote the words of Messrs. Walker & Burgess's Report, 'the bed of the river has been lowered (near Blackfriars Bridge) six feet;' and it must be evident to any one who examines the state of the river between that point and Teddington Lock that the same effect has been produced in a proportionate degree throughout the entire distance. It is singular, too, that about the year 1842 the river appeared to have assumed a degree of fixity, so to speak, in the nature of its flow, and of its action upon the bed. The erosion of the latter has lately been resumed, subsequently to the commencement of the works for the Thames Embankment, then first systematically carried into effect under the direction of Mr. Walker. The duration of the flood tide, and the height of the mean range between high and low water, have also been increased, and these effects may be distinctly traced to affect the river at points considerably above and below Old London Bridge. Thus it appears that between the years 1832 and 1845, the range of the tides at the London Docks had increased about 1 foot 6 inches; at Putney, it had increased about 2 feet 3 inches; whilst at Teddington Lock, it had increased 1 foot 4 inches nearly. The velocity of the currents of both the flood and the ebb tides has also visibly increased; but no accurate observations have been made for the purpose of ascertaining the precise extent of the change. The nature of the materials composing the bed of the river may, to a certain extent, enable us to form an opinion on this subject; but the deductions to be drawn from them are necessarily exposed to be modified by the interference with their deposition produced by the incessant wash of the steamers. It must, however, be in the memory of every member of your worshipful Committee, that even so late as 1840, the materials forming the bed of the river, laid bare between tides in the portion of its course extending from Southwark Bridge to Chelsea, consisted of semi-fluid mud of great depth. Now at the lowest point above cited, they consist of what is technically called ballast, or small gravel, unless in positions removed from the direct action of the tides. This change is most apparent in the portion of the bed exposed at half tides; but we are warranted in assuming that the velocities of the ebb and flood currents must be increased throughout their whole duration. The effects produced by these changes in the state of the river are sufficient to account for the alterations in its bed which have given rise to the settlements of Blackfriars Bridge; and all engineers are agreed that it is to the increased scour of the stream that the removal of the bed is to be attributed. But it is precisely from the fact that this increased scour (produced by the enlargement of the waterway at London Bridge, and the concentration of the lower ebb tide by the embankment) has already so seriously modified the state of the whole river, that not only Blackfriars and Westminster, but London Bridge itself, are menaced with destruction, that it appears to me to be advisable to fix the tidal action within its present range, rather than to increase it by still further increasing the waterway during the most powerful period of the tide, according to the project presented by Messrs. Walker and Burgess. If Blackfriars Bridge sink because the clay bed of the river between the piers is carried away, and therefore ceases to resist any tendency to lateral displacement by the piers, and if this clay be removed by the increased scour above described, evidently every new facility which is offered to the transmission of the tidal wave must increase the scour still further; and one after another, the foundations of all the bridges on the river will be affected."

1675. Will

1675. Will you tell the Committee what your recommendations are?—Simply to fix the bed of the river by putting a dam across it at a level which should be subsequently determined upon, so as to prevent the level being afterwards lowered.

1676. Will you state the manner in which you propose to carry that suggestion out?—The recommendation I made was to the effect that a floor should be made between the arches of the bridge, and it was proposed to be executed by forming coffer-dams on the up and down sides of the bridge, in the manner indicated upon the accompanying sketches; the coffer-dams would be respectively 35 feet from the face of the bridge on the up, and 50 feet on the down side; they would be formed of close piling, with wales at the level of the bed of the river; the space between the outer and the inner rows up to that level would be dredged to a depth of 20 feet, and the interval filled in with good hydraulic concrete; the upper portion of the coffer-dam would be filled in with clay puddle in the usual manner, and to the height indicated; the coffer-dams would be formed in detached portions between each pair of piers, excepting in cases of the arches left dry at low water; return ends would be carried across, as shown in the plan, to connect the up and down retaining walls, and to allow the floor to be executed in small portions at a time. When the water should have been pumped out from the interior of the coffer-dam, the whole surface of the ground should be excavated, to allow the insertion of a bed of concrete three feet thick, to be dressed off to levels to be given hereafter; the arches should be well shored up where requisite, and the foundations of the piers carefully underpinned to as great a distance from the face as possible with fire bricks set in Portland cement, this underpinning to descend about one foot below the concrete floor; a number of holes shall then be bored through the body of the pier, and the voids between the old foundations of the caissons and the existing ground filled in with grouting; when this grouting, and the concrete floor should have set, the coffer-dams should be removed by cutting off any piles or wood work above the water, at the level of the existing bed of the river, in such a manner as to leave the piles to act as guards to the retaining wall of concrete formed at the bottom of the dam. The arches should be repaired six months after the piers, so as to obviate any danger from the compression of the grouting under the latter.

1677. Your report had reference to Blackfriars Bridge?—Simply to Blackfriars Bridge; that being the subject which was then before the Bridge House Committee.

1678. Mr. *Pellatt.*] What would be the action of this dam?—It would fix the bed of the river, so as to prevent the water line being lowered.

1679. Mr. *Jackson.*] Do not you think it good for the navigation, that the water line should be lower than it is at present?—It is a question as to expense.

1680. Do not you think it advisable that the bed of the river should always be as low as possible?—Unquestionably.

1681. It is a question as to whether it would be better to preserve the bridges or diminish the navigation?—I should propose rather to keep the navigation in its present state.

1682. How would you do that by this coffer-dam?—By retaining the bed in its present state.

1683. Do you apprehend that the whole of those bridges now carried across the Thames are in danger?—I should be very much disposed to apprehend that that would be the case if you were to increase the flow of the tidal stream by pulling down the existing bridges, and increasing the flow of water which can go up; for instance, it is proposed at Blackfriars Bridge to pull down the present structure and to replace it by a bridge which will have a larger water-way than now exists; some fewer arches necessarily imply a larger water-way, and therefore the tide will, of course, send a larger quantity of water up the river.

1684. Mr. *Wilkinson.*] And it would therefore send a larger quantity down?—The same rule would of course apply; the scouring power will be increased. London Bridge is also rather affected at the centre; they are obliged to watch it, and occasionally to throw down ballast at the foot of the piles.

1685. Mr. *Pellatt.*] If three new bridges were erected, would not each of them serve as a dam to a certain extent, and provide for the loss of the large number of arches at Blackfriars?—That depends upon whether they were built either

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above or below the point which now forms the regulator, as it were, of the flow of the river. If three new bridges were built above Blackfriars Bridge they would not affect to any serious extent the bed of the river.

1686. But supposing one to be built below London Bridge, and two others above, one at St. Paul's, and one at Charing Cross, how would they operate on the tides?—I imagine that the bridge at Paul's Chain would not operate to any great extent, unless you carried something across the bed of the river to prevent its being affected.

1687. Mr. *Wilkinson*.] That was why you proposed to make the coffer-dam?—Precisely so; the bed being fixed to any point that might be thought desirable.

1688. Mr. *Pellatt*.] Do not you consider that some inconvenience will arise from the fall which will be caused by this dam?—I do not conceive that that would take place; in the first place, in consequence of the dam being wider than the bridge, the stream, after it had gone past the cutwaters, would be able to get back into its normal state; the fall through the arches altogether arises from the interference with the water-way.

1689. Upon your principle of preserving the foundations of the bridges, the navigation of the river would not, according to your view, be affected?—No, I conceive not; there would be no such fall as to affect the navigation.

1690. Lord *R. Grosvenor*.] You have given some considerable attention to this subject?—I have, and what I have stated is the result of my investigations.

Jovis, 6° die Julii, 1854.

MEMBERS PRESENT.

Mr. Oliveira.	Mr. Alderman Cubitt.
Mr. Pellatt.	Mr. Alderman Challis.
Mr. Blackett.	Mr. Jackson.
Sir John Shelley.	Lord Alfred Hervey.

BENJAMIN OLIVEIRA, Esq., IN THE CHAIR.

Mr. *Stephen Seaward Tayler*, called in; and Examined.

Mr. *S. S. Tayler*.
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1691. *Chairman*.] WHAT is the state and condition of Battersea Bridge?—Its state of repair is very good.

1692. Is it not a very ancient structure?—It is now in its 83d year.

1693. Under what Act of Parliament was it built?—I have the Act here (*producing the same*).

1694. What is the date of it?—1766.

1695. What was the cost of the bridge?—I am not prepared to say what the cost was.

1696. Was the Act granted to any individual or individuals?—I am not prepared to answer that question; perhaps the solicitor of the bridge, who is present, may be better able to answer that question.

1697. Mr. Alderman *Challis*.] What information are you capable of giving about any of the matters upon which we desire information?—The notice which was served upon me did not mention specifically what the objects of the Committee were; but upon the general financial condition of the bridge I could give you any information you might require. The solicitor is better acquainted with the legal title of the bridge, and matters of that kind.

1698. *Chairman*.] Is Battersea Bridge adequate to the present traffic?—I should say so decidedly, at present.

1699. Is the traffic increasing?—Upon the average, there is an annual increase.

1700. Do you think, considering the increasing traffic over the bridge, that for some years to come it may not be necessary to build any other bridge in the neighbourhood?—

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neighbourhood?—Yes, I should say decidedly that it would be unnecessary at present, and for some time to come.

1701. Mr. *Blackett.*] There is another bridge in that neighbourhood?—Yes, one building, rather more than a mile distant.

1702. *Chairman.*] Has any opinion been expressed by the inhabitants of the neighbourhood as to the desirableness of throwing it open free?—I cannot say that I am aware of any.

1703. No meeting has been held?—Not in the immediate neighbourhood of Battersea

1704. And no petition sent to this House?—Not from the people living in the neighbourhood of the bridge.

1705. What is the nature of the securities belonging to the bridge, are they bonds or shares?—I think I must refer that question to the solicitor; I presume that the question refers to the mode of proprietorship.

1706. Will you favour the Committee with any information that you have concerning the bridge, that you think important for the purposes of this inquiry?—I am prepared to speak with regard to the annual income.

1707. Have you a copy of the report made to the proprietors?—The bridge being under private management, there is no formal report made. I might mention that the tolls have averaged between 6,000 *l.* and 6,200 *l.* during the last four years.

1708. Mr. Alderman *Challis.*] Annually?—Annually.

1709. *Chairman.*] You cannot acquaint the Committee with the original cost of the bridge?—No, I cannot. The fact is, that a very few years after the bridge was built it sustained a great deal of injury, and a large sum of money was laid out upon it, so that the cost was greatly enhanced.

1710. Mr. Alderman *Challis.*] Is that 6,000 *l.* the net receipts?—No, it is the amount of the tolls.

1711. What do the expenses amount to?—They average about 700 *l.* or 800 *l.* a year. But, besides the tolls, there is landed and other property connected with the bridge, and there is also funded property, which produce income, independent of the amount which I have named.

1712. Will you be so good as to furnish the Committee with a statement of the property and income of the bridge, distinguishing the various items of which it is composed?—I will.

Vide Appendix, No. 12.

Mr. *Frederick Halsey Janson*, called in; and Examined.

Mr. *F. H. Janson.*

1713. *Chairman.*] YOU are the Solicitor to Battersea Bridge?—I am.

1714. Will you be so good as to favour the Committee with the original cost, the income and expenditure of the bridge, so far as you are acquainted with them?—I have no direct information whatever upon any one of those points.

1715. Have you any document which would show what the cost of the bridge has been?—No, nor do I believe that my predecessors, since the time the bridge was built, have ever had those particulars.

1716. How is the income of the bridge divided?—That is entirely managed by the proprietors and their treasurer; we are not consulted upon the finance.

1717. Who is the treasurer?—Mr. Henry Tritton, of Lombard-street, of the house of Messrs. Barclay, Bevan and Company.

1718. Have you any knowledge of the per-centage that the income bears to the capital?—No, nor, as I apprehend, has there been any valuation of the capital since the commencement of the undertaking.

1719. The last witness told us that the gross revenue is 6,200 *l.* a year; how is that 6,200 *l.* a year disposed of?—After payment of the expenses, it is divided among the proprietors, and I have heard generally, that they divide between 400 *l.* and 500 *l.* a share.

1720. Mr. Alderman *Challis.*] What is the number of proprietors?—Thirteen; and in reference to that, I may explain that it was divided into 15 shares under the original constitution, but that in or before the year 1796 two of those shares were bought up for the benefit of the proprietors, so reducing the actual number to 13.

1721. *Chairman.*] Is there any estimate of the amount of capital that those 13 shares represent?—I apprehend, none whatever.

1722. In the event of any one of those shares being disposed of, are they not valued?—

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valued?—They are real estate, and therefore have not been valued for probate and legacy duty.

1723. Mr. Alderman *Challis.*] Do you know what the cost of those two shares that were bought up in 1796 was?—I do not know, but possibly I could ascertain that; the bridge was constructed very much upon the purchase of the ferry, and some adjacent land; there was a certain sum contributed for the expense of the bridge at the time, the amount of which I do not know, and from that time to this it has been a partnership concern, consisting of real property (and divided first into 15, and since 1796, into 13 shares); and the net receipts are divided in 13 parts.

1724. It was built under an Act of Parliament?—Yes.

1725. In the Act, was not there granted a right to raise a certain sum to make a bridge?—No. It was set on foot, in a great measure, by Lord Spencer, and the present proprietors bought it of him; he was the owner of the ferry, which was the foundation of the bridge.

1726. What is the date of that Act of Parliament?—1766.

1727. Do not the proprietors claim rights under that Act of Parliament, which Lord Spencer could not have had without an Act?—The Act of Parliament is seldom referred to in our proceedings; it was, I think, merely an Act enabling him to take land for certain purposes; our deed of constitution is of the date of 1771; five years later than the Act.

1728. *Chairman.*] Do those 13 shares, any of them, ever change hands?—They do occasionally.

1729. Can you give the Committee any information as to their value when they changed?—The last change or sale was about ten years ago; the price then given was, I believe, 6,500*l.*

1730. For one share?—For one share; I think that was the amount, but have not the conveyance to refer to.

1731. Sir *J. Shelley.*] What do the shares stand at?—There is no nominal or market value for the shares.

1732. What is said to be the amount of the shares?—There is no specified amount; it is a thirteenth share of Battersea Bridge.

1733. How did the shares arise in the first instance?—The property was purchased, and certain contributions were made.

1734. By whom was the purchase made?—By the 15 original proprietors.

1735. What was the amount that each of them subscribed?—Those particulars I have not; it does not appear upon any document or paper in my hands as solicitor; it might possibly be deduced from the accounts; but from what I have heard in conversation, I think it would be very difficult to get at.

1736. When did the sale of this share, which was sold at 6,500 *l.*, take place?—I think it was in 1844; that is the last sale.

1737. Was this a regular sale, properly carried out; were the shares transferred from one individual to another?—Exactly so; it was sold by auction, I think.

1738. If sold by auction, there must have been some deeds produced, to show the real interest that the purchaser had in the bridge?—Yes, and that has been furnished frequently, and only lately to Government, for the purchase of some land held in connexion with the bridge. The proprietors have purchased from time to time tracts of land adjoining the bridge, subservient to the purposes of the bridge.

1739. You have stated that there were originally 15 proprietors, and that that number has been reduced to 13?—Yes; two having been purchased up by the remaining proprietors, and thus reduced the number.

1740. Mr. Alderman *Challis.*] With regard to this share that was sold for 6,500 *l.*, you have stated that the property does not entirely consist of the bridge. There is funded property and landed property?—Yes.

1741. The 6,500*l.* includes a share in all the property of the bridge?—Undoubtedly.

1742. How much of the property in the shares is represented by land, and how much by the bridge?—For that I must refer you to the managing proprietor; he has those particulars.

1743. You have the deeds; it would of course be mentioned there?—It would; but I have not got it upon paper.

1744. Can

1744. Can you give the Committee a short abstract of these facts?—Yes, I can do so.

1745. What is the toll?—Upon that I must refer you to the managing proprietor or the check clerk.

1746. Sir *J. Shelley.*] Do you make no report to the shareholders?—No. There are two meetings in the year, at which each proprietor of a whole share is summoned. Under the deed of constitution only the proprietors of whole shares are competent to attend and vote, and generally speaking three or four proprietors attend, by whom the business is transacted.

1747. Is there any debtor and creditor account laid before the meeting for them to vote upon?—I believe the treasurer brings the statement which is submitted to the meeting; but I am not present at the meetings.

1748. Does no one appear at the meetings as solicitor?—Certainly, if there happens to be any law business; but it is taken after the rest is disposed of.

1749. Are the accounts audited by any paid auditor?—I do not know their course of proceeding at all. I have only a general knowledge of the proceedings. But the managing proprietor could inform you entirely upon these points.

1750. As between the public, that is, the toll-payers and the toll-receivers, there is no one apparently who keeps any account whatever?—No; it is a private partnership concern, with a very limited number of partners.

1751. Is there any one present who can furnish the Committee with any abstract of the accounts?—I think that Mr. Tayler will be able to give you all the leading points of the accounts. I was called to speak merely to the legal position of the bridge. Perhaps I might be allowed to say, as regards the price mentioned in the last sale of shares, that the tolls have been progressing annually, so that we should not consider that at all a measure of their present value.

1752. Are you free to ask any amount of toll that may be thought prudent?—No; there was a fixed scale of toll.

1753. The amount of the shares will depend upon the amount received from the tolls; can you tell the Committee whether there is, by Act of Parliament, any schedule of charges beyond which this company cannot go?—The rate of toll is confined by the Act to a certain scale, which cannot be exceeded. The increase that I speak of has arisen from the increased traffic over the bridge, not from any increase in the rate of tolls.

1754. *Chairman.*] Do you reside in the neighbourhood of the bridge?—No.

1755. Do you know whether any opinion has been expressed by the inhabitants as to the desirableness of throwing it open?—I never heard of any.

1756. Are the powers of the Act still in force?—Yes; I believe so.

1757. Are there any conditions in the Act about re-entrance or purchase on the part of the Crown?—There is nothing of the sort, as far as I remember. It is merely an Act to enable Lord Spencer to do certain things.

1758. There is no clause with reference to purchase for the benefit of the public?—Nothing of the sort, I feel certain.

1759. Mr. *Jackson.*] Are the shares by the Act of Parliament transferable by deed?—They are not transferable by the Act at all.

1760. Is there any method by which the shares can be passed from one person to another?—It requires a conveyance as of real estate.

1761. Is there any register kept of the conveyances so executed?—Yes.

1762. By you?—Yes, and I send the particulars to the treasurer; the marginal note of the first clause of the Act is, "Earl Spencer empowered to build a bridge over the Thames from Battersea to Chelsea, and to turn and make any highway or way leading to the same, making satisfaction," and that is the sum and substance of the Act.

1763. Sir *J. Shelley.*] Does the present Lord Spencer represent the grantee of those powers?—No; as far back as 1771 Lord Spencer conveyed the property to the 15 proprietors. He retained one share, which was sold many years since, but two have come to his family by devise from another proprietor, the late Mr. Poyntz. I see that the 13th clause of the Act contains a schedule of the tolls, with an express power by the 15th section, to lower them.

1764. Can you furnish the Committee with a copy of the Act under which this bridge was built?—I can (*producing the same*).

1765. Will you hand it in?—(*The same was delivered in.*)

Mr. *Robert Baalham*, called in; and Examined.

Mr. *R. Baalham.*

6 July 1854.

1766. *Chairman.*] WHAT is your appointment in connexion with Battersea Bridge?—I am resident Superintendent and Cheque Clerk.

1767. Will you be good enough to acquaint the Committee with all the information that you have with reference to its financial condition?—I have made an abstract of the returns of the tolls for the last three years; taking the average of three years the present income is 6,105*l.* 0*s.* 3*d.*

1768. Mr. Alderman *Challis.*] Will you state the income of each year, distinguishing how much has been taken in toll from the bridge, and how much from interest of money, or any other source?—The sum I have stated is altogether derived from tolls; I have no information respecting the private property of the bridge.

1769. Will you deduct the expenses of each year?—The amount of the receipts for 1851, is 6,099*l.* 9*s.* 4*d.*; 1852, 6,144*l.* 0*s.* 10*d.*; 1853, 6,071*l.* 10*s.* 7*d.*; making an average of 6,105*l.* 0*s.* 3*d.* The annual expenses, including the management, toll-keepers, keeping the bridge in repair, lighting, &c., are about 750*l.*, as near as I can estimate them. The reduction on the amount in 1853 was caused by the closing of Battersea Fields as a place of public amusement.

1770. You do not know what is the value of the property belonging to the bridge?—It does not come within my province; I do not even collect the ground rents. There is property on both sides of the bridge; the house where I reside is a freehold belonging to the bridge, and there is a piece of ground which we use for the purpose of the repairs.

1771. Can you give the Committee any information which will enable them to judge how much of the price of the share that was sold belonged to the landed and other property of the bridge proprietors?—At the period when that share was sold, the returns of the bridge were considerably under 5,000*l.*; I am speaking now of the actual return of the tolls in the year in which that share was sold, because there was a considerable difference between that time and the present. Tolls have increased upwards of 1,500*l.* a year since that period; 4,527*l.* was the return at that time; that was 1,578*l.* less than the income of last year.

1772. When was that?—It was on the 28th of November 1843.

1773. Mr. *Jackson.*] Can you give the Committee any description of the property at that date?—I cannot; perhaps our managing proprietor would be able to do so.

1774. Can you inform us of the amount of income derivable from other sources at that period and at this period?—When the notice was served upon me, I was not informed of the object of this inquiry, and I am not therefore prepared with full information.

1775. Will you furnish the Committee, before their next meeting, with a statement of the income of the bridge in the year when this share was sold, separating the income derived from the bridge from that derived from the other property; and also a statement of the income of the last year?—For the private income I must refer the Committee to the managing proprietor; the rest shall be produced. There were one or two questions which were put to other gentlemen which I can answer better than they; for example, about the present stability of the bridge, and its capabilities of traffic.

1776. What is your opinion as to the stability of the bridge?—I believe that it is in a better condition than it has ever been; and as to its present construction, I have no hesitation in saying that it will last longer than any other bridge over the Thames, because we annually put in somewhere about 15 or 20 loads of timber. I am employed by the bridge proprietors to do this; and whatever is necessary to be taken out, is taken out and replaced; consequently it is almost new. It is not one of those bridges likely to suffer from the unfortunate disposition of the bed of the river, and therefore its foundation is perfectly secure. As to its capabilities for traffic, I should say that we could take twice the amount of traffic if required without inconvenience.

1777. *Chairman.*] Has any opinion been expressed by the inhabitants of the neighbourhood, as to their desire that the bridge should be thrown open?—I should say there has. I have been told that petitions have been got up on both sides

sides of the river, in order to throw it open; and from that I should judge that there is a desire among the people that it should be thrown open. Mr. R. Baalha

1778. The proprietors of the property on each side of the bridge think it is to their advantage that the bridge should be thrown open?—No doubt of it. 6 July 1854.

1779. Is that your opinion?—That is my opinion. I believe I have furnished you with all the particulars I can. I merely take the daily returns, and make them up weekly to Mr. Tayler. I am prepared to give a weekly return, and likewise a yearly return of the income of tolls.

Mr. *Henry Hewett Mason*, called in; and Examined.

1780. *Chairman.*] I BELIEVE that you are very well acquainted with the condition and financial affairs of Kew Bridge?—I am. Mr. H. H. Mas

1781. Will you be so good as to give the Committee the best information that you can?—The bridge is a stone bridge, and in perfect repair; in fact, the repairs have been very small. Three years ago we had occasion to repair the bridge, and since that we have had something to do to find an excuse for repairing the bridge at all. I have a statement of the gross receipts for several years past. I do not know how far the Committee would like to go back. In 1843 the gross receipts were 2,121 *l.*, omitting fractions.

1782. Mr. Alderman *Challis.*] Is that exclusive of the expenses?—That is the gross receipts. The outgoings for several years averaged about 210 *l.* a year, including the cost of collection.

1783. Mr. *Jackson.*] Can you give us the income for last year?—For 1853 the income was 2,750 *l.* 10 *s.*

1784. The outgoings were increased?—They were about 230 *l.*

1785. *Chairman.*] The bridge, I think, belongs to one single proprietor?—It does.

1786. Do you know what he paid for it?—The purchase-money was about 17,800 *l.*, but in consequence of some litigation it cost 20,700 *l.*; but I was told that there was at the time it was sold a panic among the proprietors. They tried to get out of the purchase afterwards, but they found that that would involve a lawsuit.

1787. Mr. *Jackson.*] Was the company constituted by Act of Parliament?—It was.

1788. The gentleman you have named is the sole proprietor?—He is the sole proprietor. It was an ancient ferry, and the bridge was substituted.

1789. Were the ferry rights abrogated?—The bridge stands in the place of the ferry.

1790. Is there any clause in the Act of Parliament which would enable the Government to buy the bridge?—None.

1791. *Chairman.*] Do you think the persons in the locality would desire to have the bridge made free?—There is no doubt.

1792. Would it improve the value of the property in the neighbourhood?—I have no doubt that it would.

1793. Mr. Alderman *Challis.*] What is the rate of toll you charge?—I have a paper here containing a list of the tolls.

1794. Will you put in that paper?—I will furnish the Committee with a complete account of the scale of tolls.

1795. Mr. *Jackson.*] Are those the tolls prescribed by the Act?—They do not go to the limit that is allowed by the Act. I had a copy of the Act, which has been mislaid; but I know that we do not go to the limit allowed by the Act.

1796. *Chairman.*] Do you think that the people of Kew would object to a rate if the bridge were thrown open?—If it were a county rate perhaps they would not, but if it were a rate upon the neighbourhood only, I think they would.

1797. Mr. *Jackson.*] If a rate were laid upon the area of 20 miles round St. Paul's, for the purpose of throwing open all the bridges over the Thames within that area, would the people of Kew and the neighbourhood be willing to pay their share?—Yes.

1798. *Chairman.*] They have not presented a petition to this House upon the subject?—I have not heard of any.

1799. Have they had any meeting?—I have not heard of it.

1800. Mr. *Jackson.*] Have you any statement that you can put in?—I have

Mr. *H. H. Mason.* gone into some analysis of the traffic, and so forth, by which it appears that something like half a million of people cross it in the year.

6 July 1854.

1801. Do you know how many shares there were, and what was the value of each share raised under the Act of Parliament?—There was one proprietor who raised the shares of 16,000*l.* by tontine in three classes; two of which are expired, and it is now subject to a tontine annuity of 330*l.* a year; that is divided into 13 shares, four of which are vested in the proprietor.

1802. Out of this 2,250*l.* he has to pay 330*l.*?—Yes.

1803. What are the respective ages of the persons upon whose lives this annuity depends?—They are very old persons; a Mr. Robinson purchased in the year 1825, and the youngest life was then 41; that is 29 years ago; so that he is now 70.

1804. Mr. Alderman *Challis.*] Can you put in an account of the receipts and expenses for the last seven years?—With the single exception of the Exhibition year, which rather exceeded the general amount, there has been a progressive increase for several years past, from the time when Hammersmith Bridge was opened, at which time it fell.

1805. What has it been since that time?—In the year after the opening of Hammersmith Bridge they were only 1,703*l.*; that has increased nearly 1,000*l.* since that time.

The Rev. *Charles Woodward,* called in; and Examined.

Rev. *C. Woodward.*

1806. *Chairman.*] WHERE do you reside?—At East Moulsey.

1807. You were kind enough to attend at the last meeting of the Committee to give evidence with respect to Hampton Court Bridge; I think you can give us some information as to the operation of the tolls upon the inhabitants of Moulsey?—I have put down a few notes upon the subject, and if the Committee will allow me to read them, it will save some time. "Hampton Court and parish of East Moulsey. The bridge divides the palace and the parish, in which is the railway terminus. Many workmen, labourers, laundresses, servants, and attendants are employed at the palace who live in the parish, and pay toll daily, going and returning, which is a heavy tax upon their wages, for the support of large families, not increased on that account. Many old, infirm, and poor, seek to pick up a scanty help for their subsistence by selling trifles; they have often told me that at times they have not taken enough to clear the tolls, and instances have occurred of their being compelled to pledge an article at the toll-gate for it. Kingston being the adjacent town, subjects the poor and neighbourhood to an additional toll. The dilapidated state of the very small parish church compels the chief of my parishioners to cross the bridge on Sunday, for which they pay double toll each way. I find that this operates very injuriously to the parochial interests in the support of schools and other objects, as they complain of being driven from their parish, whilst the burden of rates and taxes is borne by them. The nearest post-office is on the other side of the bridge. It costs 12*s.* per week for tolls to supply the palace with coals from the railway depôt, and 4*s.* for delivering parcels, &c., by the railway. Mr. Evans, a grocer on the Hampton Court side, pays 11*l.* a year contract for traffic over the bridge, which, and in many other like cases, operates as an indirect tax upon commodities to consumers on the Moulsey side. In cases of sudden and dangerous illness the bridge must be crossed for medical aid. At Easter, Whitsuntide, and the races, 10,000 a day have come down for recreation, and the palace being an object of attraction, it is visited by vast numbers throughout the year, each paying toll. The bridge is narrow, trembles under heavy carriages, obstructs navigation, and recently three lives were nearly lost by the boat" (one of those was the son of my churchwarden) "through the strong current, being upset in contact with the projecting timber. It is said that the Railway Act gives power to extend to Hampton Court; if so, they may build a bridge, and supersede the present." I have been told that the Hampton Court Railway Company have powers to carry the terminus to Hampton Court, in which case, I suppose that they have power in the Act to build a bridge. I have an abstract of the Act, which I will hand in. (*The same was delivered in.*)

APPENDIX.

LIST OF APPENDIX.

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A P P E N D I X.

Appendix, No. 1.

PAPERS delivered in by *Edward Tyrrell*, Esq., 21 March 1854.

RETURN of the AMOUNTS Annually received in respect of the COAL DUTIES since the 31st December 1831, distinguishing the Produce of the Several Duties of Eightpence, Fourpence, and One Penny, with the respective Application thereof.

The Amounts Annually received in respect of the COAL DUTIES since the 31st December 1831, with the Application thereof so far as concerns the Duty of Eightpence per Ton.

	Gross Duty at 8*d.* a Ton.	Drawback Allowed.	Net Duty after Allowing Drawback.	APPLICATION.
	£. s. d.	£. s. d.	£. s. d.	
From 5th January to 1st July 1832 - -	33,620 4 3	- - -	33,620 4 3	- - The produce of the duty carried, together with other monies then forming "The Orphans' Fund," to the credit of that fund.
From 2d July to 31st December 1832 -	39,898 2 6	- - -	39,898 2 6	The produce of the duty, together with wine duty, charges upon the corporate revenues, a duty on admission to the freedom of London, a duty on the binding of apprentices, the profits of aqueducts, and one moiety of the net profits of Farringdon Market, carried to the fund called "The London Bridge Approaches Fund," which fund is charged by Parliament with effecting street improvements in the metropolis.
From 1st January 1833 to 5th January 1834	69,010 13 –	- - -	69,010 13 –	
From 5th January 1834 to 5th January 1835	68,005 14 –	- - -	68,005 14 –	
1835 „ 1836	76,665 14 4	- - -	76,665 14 4	
„ 1836 „ 1837	79,915 4 2	- - -	79,915 4 2	
„ 1837 „ 1838	85,197 18 –	- - -	85,197 18 –	
„ 1838 „ 1839	88,703 14 10	87 16 –	88,615 18 10	
„ 1839 „ 1840	85,836 15 4	2,304 10 –	83,532 5 4	
„ 1840 „ 1841	89,705 11 8	2,709 4 8	86,996 7 –	
„ 1841 „ 1842	96,232 11 10	2,381 – –	93,851 11 10	
„ 1842 „ 1843	89,645 6 –	3,180 16 8	86,464 9 4	
„ 1843 „ 1844	92,765 10 6	2,814 8 8	89,951 1 10	
„ 1844 „ 1845	88,187 11 10	2,440 8 –	85,747 3 10	
„ 1845 „ 1846	112,197 15 11¼	3,582 2 –	108,915 13 11¼	
„ 1846 „ 1847	100,338 15 1	4,221 16 8	96,116 18 5	
„ 1847 „ 1848	109,399 13 3	4,089 2 8	105,310 10 7	
„ 1848 „ 1849	118,441 10 1	4,770 14 –	113,670 16 1	
„ 1849 „ 1850	110,046 13 8	4,653 5 4	105,393 8 4	
„ 1850 „ 1851	120,365 5 –	4,158 16 8	116,206 8 4	
„ 1851 „ 1852	117,606 10 9	6,019 15 4	111,586 15 5	
„ 1852 „ 1853	123,657 3 11	10,098 – 8	113,559 3 3	
„ 1853 „ 1854	133,409 10 –	10,505 14 8	122,903 15 4	

The Amounts Annually received in respect of the Coal Duties since the 31st December 1831, with the Application thereof so far as concerns the Duty of 4 *d.* per Ton.

	Gross Duty at 4 *d.* a Ton.	Drawback allowed.	Net Duty after allowing Drawback.	APPLICATION.
	£. s. d.	£. s. d.	£. s. d.	
For the Year ending 31 December 1832	35,722 9 11¼	- - -	35,722 9 11¼	The duty of 4 *d.* per ton being the property of the Corporation of London, is carried to the credit of the City's cash, subject to such application as they may from time to time direct.
" " 1833	34,004 11 5	- - -	34,004 11 5	
" " 1834	34,128 17 8	- - -	34,128 17 8	
" " 1835	38,394 8 5	- - -	38,394 8 5	
" " 1836	40,061 11 11	- - -	40,061 11 11	
" " 1837	42,431 11 -	- - -	42,431 11 -	
" " 1838	44,097 15 6	43 18 -	44,053 17 6	
" " 1839	42,888 8 -	1,152 5 -	41,736 3 -	
" " 1840	44,458 3 11	1,354 12 4	43,103 11 7	
" " 1841	48,521 17 2	1,190 10 -	47,331 7 2	
" " 1842	44,798 18 4	1,590 8 4	43,208 10 -	
" " 1843	46,080 16 9	1,407 4 4	44,673 12 5	
" " 1844	42,988 5 11	1,220 4 -	41,768 1 11	
" " 1845	57,741 3 7½	1,791 1 -	55,950 2 7½	
" " 1846	49,921 19 7	2,110 18 4	47,811 1 3	
" " 1847	55,284 7 2	2,044 11 4	53,239 15 10	
" " 1848	57,992 8 10	2,385 7 -	55,607 1 10	
" " 1849	55,515 13 2¼	2,326 12 8	53,189 - 6¼	
" " 1850	60,519 16 10	2,079 8 4	58,440 8 6	
" " 1851	58,357 14 -	3,009 17 8	55,347 16 4	
" " 1852	62,640 10 4	5,049 - 4	57,591 10 -	
" " 1853	66,083 3 -	5,252 17 4	60,830 5 8	

The Amounts Annually received in respect of the Coal Duties since the 31st day of December 1831, with the Application thereof so far as concerns the Duty of 1 *d.* per Ton.

	Gross Duty at 1 *d.* a Ton.	Drawback allowed.	Net Duty after allowing Drawback.	APPLICATION.
	£. s. d.	£. s. d.	£. s. d.	
For the Year ending 31st December 1832	8,922 5 10	- - -	8,922 5 10	From the year 1832 to the year 1845, inclusive, the duty of 1 *d.* per ton was applied in maintaining the market established for the sale of coals in the City of London, in paying the pensions due to the land coal-meters deprived of their offices by the operation of the Act 1 & 2 Will. 4, c. 76, and in carrying out generally the provisions of that Act.
" " 1833	8,499 3 9¼	- - -	8,499 3 9¼	
" " 1834	8,531 16 11	- - -	8,531 16 11	
" " 1835	9,598 7 8½	- - -	9,598 7 8½	
" " 1836	10,015 6 1¼	- - -	10,015 6 1¼	
" " 1837	10,608 12 2	- - -	10,608 12 2	
" " 1838	11,024 13 8½	10 19 6	11,013 14 2½	
" " 1839	10,728 14 6	288 1 3	10,440 13 3	
" " 1840	11,113 3 4½	338 13 1	10,774 10 3½	
" " 1841	12,142 2 5¾	297 12 6	11,844 9 11¾	
" " 1842	11,199 17 2	397 12 1	10,802 5 1	
" " 1843	11,521 14 9¾	351 16 1	11,169 18 8¾	
" " 1844	10,749 17 -¾	305 1 -	10,444 16 -¾	
" " 1845	14,421 13 4	447 15 3	13,973 18 1	
" " 1846	12,476 12 6¼	527 14 7	11,948 17 11¼	Since the year 1845, the duty of 1 *d.* per ton has been paid to Her Majesty's Commissioners of Works, to be applied by them in effecting public improvements in the metropolis authorised by several Acts of Parliament.
" " 1847	13,831 4 4	511 2 10	13,320 1 6	
" " 1848	14,489 19 2½	596 6 9	13,893 12 5½	
" " 1849	13,877 6 7½	581 13 2	13,295 13 5½	
" " 1850	15,230 - 8¼	519 17 1	14,710 3 7½	
" " 1851	14,467 4 9	752 9 5	13,714 15 4	
" " 1852	15,660 2 7	1,262 5 1	14,397 17 6	
" " 1853	16,520 15 9	1,313 4 4	15,207 11 5	

Chamber of London,
20 March 1854.

Wm. Payne,
Chief Clerk.

Appendix, No. 2.

PAPERS delivered in by *Ferdinand Brand*, Esq., 21 March 1854.

STREET TRAFFIC.—TABLES showing the Number of VEHICLES passing through STREETS.

TABLE No. 1.—Showing the Number of VEHICLES and HORSES passing through certain Thoroughfares within the

DATE.	SITUATION.	Hour ending 9 A. M.			Hour ending 10 A. M.			Hour ending 11 A. M.			Hour ending 12 A. M.			Hour ending 1 P. M.		
		Vehicles drawn by			Vehicles drawn by			Vehicles drawn by			Vehicles drawn by			Vehicles drawn by		
		1 Horse, including Equestrians.	2 Horses.	3 Horses or more.	1 Horse, including Equestrians.	2 Horses.	3 Horses or more.	1 Horse, including Equestrians.	2 Horses.	3 Horses or more.	1 Horse, including Equestrians.	2 Horses.	3 Horses or more.	1 Horse, including Equestrians.	2 Horses.	3 Horses or more.
8 July 1850	Temple Bar Gate - -	230	61	20	292	192	42	448	235	21	505	222	30	460	218	13
9 „ „	Holborn Hill, by St. Andrew's Church.	250	65	12	380	166	6	480	181	9	530	154	14	453	160	10
10 „ „	Ludgate Hill, by Pilgrim-street.	268	76	17	290	170	16	454	261	13	420	210	6	530	256	3
11 „ „	Newgate-street, by Old Bailey.	250	59	11	360	155	13	433	184	11	367	137	5	390	156	9
12 „ „	Aldersgate-street, by Fann-street.	140	20	8	198	52	11	150	44	14	147	36	13	165	40	9
13 „ „	Cheapside, by Foster-lane	345	110	18	483	301	21	703	385	36	768	390	11	680	334	6
15 „ „	Poultry, by Mansion House	287	103	24	437	315	10	654	398	19	690	373	17	680	358	5
16 „ „	Finsbury Pavement, by South Place.	185	63	14	252	123	10	330	138	7	250	129	8	243	115	6
17 „ „	Cornhill, by Royal Exchange.	98	56	7	172	177	15	252	210	17	270	184	7	275	208	4
18 „ „	Threadneedle-street -	47	47	4	67	77	1	162	97	3	160	50	4	160	50	1
19 „ „	Gracechurch-street, by St. Peter's-alley.	202	50	6	200	99	23	308	113	18	320	175	12	295	87	10
20 „ „	Lombard-street, by Birchin-lane.	121	15	1	87	28	2	140	12	4	174	14	–	160	9	–
22 „ „	Bishopsgate-street Within, by Great St. Helen's.	194	58	7	253	144	11	323	164	13	277	143	10	260	125	11
23 „ „	London Bridge - -	519	130	22	744	339	45	955	334	43	820	274	30	775	296	23
24 „ „	Bishopsgate-street, Without, by City Boundary.	148	51	4	197	121	11	310	134	3	170	109	7	191	112	4
25 „ „	Aldgate High-street, by City Boundary.	335	68	22	291	111	20	292	115	10	287	145	10	300	135	10
26 „ „	Leadenhall-street, rear of East India House.	193	45	13	272	141	16	388	196	11	340	150	5	415	168	11
27 „ „	Eastcheap, by Philpot-lane	274	35	26	293	40	13	340	46	12	320	34	18	340	27	11
29 „ „	Tower-street, by Mark-lane.	132	22	15	180	37	5	220	32	10	220	39	12	260	26	6
30 „ „	Lower Thames-street, by Botolph-lane.	79	7	2	117	10	3	153	15	7	90	7	8	83	21	1
31 „ „	Blackfriars Bridge - -	268	42	17	280	78	23	409	99	10	393	89	34	365	78	22
1 Aug. „	Upper Thames-street, rear of Queen-street.	97	28	15	172	43	12	126	28	11	160	42	21	160	35	10
2 „ „	Smithfield Bars - -	180	16	7	206	18	6	180	16	6	254	14	9	252	18	6
3 „ „	Fenchurch-street - -	175	20	11	198	60	4	205	41	7	298	39	6	240	45	8
		5,017	1,256	303	6,421	2,997	339	8,415	3,478	315	8,230	3,159	297	8,132	3,077	199

Appendix, No. 2.

PAPERS delivered in by *Ferdinand Brand*, Esq., 21 March 1854.

STREET TRAFFIC.—TABLES showing the Number of VEHICLES passing through STREETS.

City of *London*, between the Hours of 8 A.M. and 8 P.M., upon certain Days during the Year 1850.

Hour ending 2 P.M.			Hour ending 3 P.M.			Hour ending 4 P.M.			Hour ending 5 P.M.			Hour ending 6 P.M.			Hour ending 7 P.M.			Hour ending 8 P.M.		
Vehicles drawn by			Vehicles drawn by			Vehicles drawn by			Vehicles drawn by			Vehicles drawn by			Vehicles drawn by			Vehicles drawn by		
1 Horse, including Equestrians.	2 Horses.	3 Horses or more.	1 Horse, including Equestrians.	2 Horses.	3 Horses or more.	1 Horse, including Equestrians.	2 Horses.	3 Horses or more.	1 Horse, including Equestrians.	2 Horses.	3 Horses or more.	1 Horse, including Equestrians.	2 Horses.	3 Horses or more.	1 Horse, including Equestrians.	2 Horses.	3 Horses or more.	1 Horse, including Equestrians.	2 Horses.	3 Horses or more.
415	230	19	550	231	10	496	237	4	470	255	13	435	219	17	329	200	8	405	198	11
435	158	13	373	150	12	270	100	7	639	251	25	330	111	4	615	209	17	219	92	6
330	180	4	400	221	7	288	242	1	375	235	9	360	220	4	330	210	3	214	202	4
377	155	5	390	167	7	525	201	12	390	177	5	415	142	6	337	126	4	250	136	8
180	49	6	150	32	12	172	40	7	187	36	12	185	40	8	175	44	10	141	46	11
664	336	9	665	338	4	730	339	7	671	427	8	645	303	16	482	319	7	271	212	9
595	337	9	548	321	6	575	330	5	565	381	10	505	310	10	455	344	3	292	299	4
223	118	4	184	107	2	215	128	4	340	135	8	300	159	16	242	142	16	140	101	3
253	180	8	305	185	3	276	172	3	255	206	7	242	180	8	177	176	1	186	140	1
120	32	2	164	46	2	157	37	1	150	45	3	157	45	3	115	30	3	77	31	–
330	81	12	360	93	11	375	123	18	302	135	24	310	113	13	253	79	6	250	75	6
215	15	2	227	9	1	283	20	1	223	20	–	180	26	3	115	15	–	94	12	–
164	70	4	320	113	6	287	140	5	380	150	11	320	123	7	270	127	7	222	120	3
765	255	28	793	284	24	845	305	30	975	336	33	970	305	33	680	264	18	510	258	30
243	96	3	285	97	8	231	103	1	309	113	8	305	126	8	203	112	8	177	99	3
249	123	7	360	112	17	274	122	13	248	141	16	276	110	15	220	100	11	190	96	3
385	171	7	353	158	14	387	172	10	295	166	5	390	183	15	292	139	6	260	152	6
300	28	15	310	38	20	345	40	8	340	43	15	280	58	11	230	59	5	109	16	3
270	39	15	252	34	4	226	26	10	230	39	13	195	34	9	137	25	2	94	16	4
100	8	–	100	15	3	130	13	4	143	23	2	100	15	6	52	14	3	40	4	2
253	65	18	302	73	10	340	66	10	450	103	17	446	87	15	361	89	13	265	66	6
120	31	9	125	33	6	160	44	9	185	52	16	241	54	17	139	25	12	71	13	9
232	19	4	305	20	9	250	11	6	305	17	6	265	20	4	269	10	9	145	14	–
223	39	7	220	46	6	267	54	6	300	57	7	215	36	8	193	53	3	516	28	1
7,441	2,815	210	7,941	2,923	204	8,104	3,065	182	8,727	3,543	273	8,067	3,019	256	6,671	2,911	175	5,138	2,426	133

TABLE No. 2.—Showing Totals of every Description of VEHICLE passing per Hour, and per Day of 12 Hours, through certain Streets within the City of *London*.

DATE.	SITUATION.	Hours Ending 9 A.M.	10 A.M.	11 A.M.	12 Noon.	1 P.M.	2 P.M.	3 P.M.	4 P.M.	5 P.M.	6 P.M.	7 P.M.	8 P.M.	TOTAL of 12 Hours.	Average per Hour.
8 July 1850	Temple Bar Gate -	311	526	704	757	691	664	791	737	738	671	537	614	7,741	645
9 „ „	Holborn-hill, by St. Andrew's Church.	327	552	670	698	623	606	535	377	915	445	841	317	6,906	575
10 „ „	Ludgate-hill, by Pilgrim-street.	361	476	728	636	789	514	628	531	619	584	543	420	6,829	569
11 „ „	Newgate-street, by Old Bailey.	320	528	628	509	555	537	564	738	572	563	467	394	6,375	531
12 „ „	Aldersgate-street, by Fann-street.	168	261	208	196	214	235	194	219	235	233	229	198	2,590	215
13 „ „	Cheapside, by Foster-lane.	473	805	1,124	1,169	1,020	1,009	1,007	1,076	1,106	964	808	492	11,053	921
15 „ „	Poultry, by Mansion House.	414	762	1,071	1,080	1,043	941	875	910	956	825	802	595	10,274	856
16 „ „	Finsbury Pavement, by South-place.	262	385	475	387	364	345	293	347	483	475	400	244	4,460	371
17 „ „	Cornhill, by Royal Exchange.	161	364	479	461	487	441	493	451	468	430	354	327	4,916	409
18 „ „	Threadneedle-street -	98	145	262	214	211	154	212	195	198	205	148	108	2,150	179
19 „ „	Gracechurch-street, by St. Peter's-alley.	258	322	439	507	392	423	464	516	461	436	338	331	4,887	407
20 „ „	Lombard-street, by Birchin-lane.	137	117	156	188	169	232	237	304	243	209	130	106	2,228	185
22 „ „	Bishopsgate-street, by Great St. Helen's.	259	408	500	430	396	238	439	432	541	450	404	345	4,842	403
23 „ „	London Bridge - -	680	1,128	1,332	1,124	1,094	1,048	1,101	1,180	1,344	1,308	962	798	13,099	1,091
24 „ „	Bishopsgate-street Without, by City Boundary.	203	329	447	286	307	342	390	335	430	439	323	279	4,110	342
25 „ „	Aldgate High-street, by City Boundary.	425	422	417	442	445	379	389	409	405	401	331	289	4,754	396
26 „ „	Leadenhall-street, by East India House	251	429	595	495	594	563	525	569	466	588	437	418	5,930	494
27 „ „	Eastcheap, by Philpot-lane.	335	346	398	372	378	343	368	393	398	349	294	128	4,102	341
29 „ „	Tower-street, by Mark-lane.	169	222	262	271	292	324	290	262	282	238	164	114	2,890	240
30 „ „	Lower Thames-street, by Botolph-lane.	88	130	175	105	105	108	118	147	168	121	69	46	1,380	115
31 „ „	Blackfriars Bridge -	327	381	518	516	465	336	385	416	570	548	463	337	5,262	438
1 Aug. „	Upper Thames-street, rear of Queen-street.	140	227	165	223	205	160	164	213	253	312	176	93	2,331	194
2 „ „	Smithfield Bars - -	203	230	202	277	276	255	334	267	328	289	288	159	3,108	259
3 „ „	Fenchurch-street - -	206	262	253	343	293	269	272	327	364	259	249	545	3,642	303
		6,576	9,757	12,208	11,686	11,408	10,466	11,068	11,351	12,543	11,342	9,757	7,697	125,859	10,488

TABLE

TABLE No. 3.—Showing the Total Number of each Description of VEHICLE passing through certain Streets within the City of *London*, between the Hours of 8 A. M. and 8 P. M. (12 Hours).

DATE.	SITUATION.	Total Number of Vehicles drawn by			Total of the whole.	Average Number per Hour.			Average of the whole.
		1 Horse and Equestrians.	2 Horses.	3 Horses or more.		1 Horse and Equestrians.	2 Horses.	3 Horses or more.	
8 July 1850	Temple Bar Gate	5,035	2,498	208	7,741	419	208	17	645
9 „ „	Holborn Hill, by St. Andrew's Church	4,974	1,797	135	6,906	414	149	11	575
10 „ „	Ludgate Hill, by Pilgrim-street	4,259	2,483	87	6,829	354	207	7	569
11 „ „	Newgate-street, by Old Bailey	4,484	1,795	96	6,375	373	149	8	531
12 „ „	Aldersgate-street, by Fann-street	1,990	479	121	2,590	165	40	10	215
13 „ „	Cheapside, by Foster-lane	7,107	3,794	152	11,053	592	316	12	921
15 „ „	Poultry, by Mansion House	6,283	3,869	122	10,274	523	332	10	856
16 „ „	Finsbury Pavement, by South-place	2,904	1,458	98	4,460	242	121	8	371
17 „ „	Cornhill, by Royal Exchange	2,761	2,074	81	4,916	230	172	7	409
18 „ „	Threadneedle-street	1,536	587	27	2,150	128	49	2	179
19 „ „	Gracechurch-street, by St. Peter's Alley	3,505	1,223	159	4,887	292	102	13	407
20 „ „	Lombard-street, by Birchin-lane	2,019	195	14	2,228	168	16	1	185
22 „ „	Bishopsgate-street, by Great St. Helen's	3,270	1,477	95	4,842	272	123	8	403
23 „ „	London Bridge	9,351	3,389	359	13,099	779	282	30	1,091
24 „ „	Bishopsgate-street Without, by City Boundary	2,769	1,273	68	4,110	230	106	5	342
25 „ „	Aldgate High-street, by City Boundary	3,222	1,378	154	4,754	268	114	10	396
26 „ „	Leadenhall-street, by East India House	3,970	1,841	119	5,930	330	153	12	494
27 „ „	Eastcheap, by Philpot-lane	3,481	464	157	4,102	290	38	13	341
29 „ „	Tower-street, by Mark-lane	2,416	369	105	2,890	201	30	8	240
30 „ „	Lower Thames-street, by Botolph-lane	1,187	152	41	1,380	98	12	3	115
31 „ „	Blackfriars Bridge	4,132	935	195	5,262	344	78	16	438
1 Aug. „	Upper Thames-street, rear of Queen-street	1,756	428	147	2,331	146	35	12	194
2 „ „	Smithfield Bars	2,843	193	72	3,108	237	16	6	259
3 „ „	Fenchurch-street	3,050	518	74	3,642	254	43	6	303
		88,304	34,669	2,886	125,859	7,358	2,889	240	10,488

Appendix, No 3.

PAPER furnished by *R. Few*, Esq.

CHARING-CROSS BRIDGE.—STATEMENT OF TRAFFIC.

1845	1 May to 31 July	1,248,198		1850	31 January to 31 July	1,496,918	
	31 July to 31 January	1,492,676			31 July to 31 January	1,445,091	
			2,740,874				2,942,009
1846	31 January to 31 July	1,611,146		1851	31 January to 31 July	1,699,194	
	31 July to 31 January	1,512,353			31 July to 31 January	1,792,624	
			3,123,499				3,491,818 *
1847	31 January to 31 July	1,634,622		1852	31 January to 31 July	1,551,340	
	31 July to 31 January	1,528,288			31 July to 31 January	1,470,952	
			3,162,910				3,022,292
1848	31 January to 31 July	1,472,727		1853	31 January to 31 July	1,529,700	
	31 July to 31 January	1,440,098			31 July to 31 January	1,495,522	
			2,912,825				3,025,222
1849	31 January to 31 July	1,550,158		1854	31 January to 30 April		735,292
	31 July to 31 January	1,389,822					
			2,939,980				28,096,721

* The year of the Great Exhibition.

The traffic to and from the steamboat pier rather exceeds 2,500,000 annually, thus making a traffic over one part of the bridge of upwards of 5,500,000.

The number of persons on the bridge on the occasion of Prince Albert's visit to the City (30 October 1849) amounted to 33,857, and it was estimated that at one period of the day 9,000 persons were assembled, chiefly in the centre of the bridge.

Appendix, No. 4.

PAPER delivered in by Mr. *George Powell*, 23 May 1854.

(A.)

WATERLOO BRIDGE COMPANY.

Dr. The Waterloo Bridge Company, Half-year ended the 23d August 1853. *Cr.*

INCOME.	£. s. d.	£. s. d.	CONTRA.	£. s. d.
To Foot toll received from 23 February 1853 to this date	5,047 16 10		By Wages of 10 toll collectors, roadman, and messenger	461 10 –
Horse toll, ditto	4,804 10 9		Lighting the bridge and approaches with gas	81 12 –
		9,852 7 7	Watering and carting, as per contract	65 – –
Rents of arched vaults for half a year		382 7 6	Oiling, cleaning, and repairing indicators	10 – –
Ditto of London Gas Company		75 – –	Repairs of roads, including materials	160 14 10
Ditto of Electric Telegraph Company		12 10 –	Taxes	16 9 10
Interest on Reduced 3 *l.* per Cents., 2,388 *l.* 1 *s.* 2 *d.* Stock, the consideration for a lease of 10 arched vaults		35 16 5	Rent of Company's house	63 – –
Interest on Exchequer bills, 7,000 *l.*		136 4 –	Remuneration to directors and auditors	105 – –
			Salaries, chief clerk and assistant clerk	275 – –
			Stationery	3 15 6
			Printing and books	13 6 –
			Incidentals	17 2 10
			Advertisements	3 16 11
			Expenses	1,276 7 11
			By Income duty	238 10 11
			Total Disbursements	1,514 18 10
			By Interest on bonds, at 5 *l.*, 4 *l.*, and 3 ½ per cent.	1,295 16 –
			Dividend of 4 *s.* in the pound on 37,500 *l.* annuities, due this half year	7,500 – –
				10,310 14 10
			Stock, surplus of this half year	183 10 8
£.		10,494 5 6	£.	10,494 5 6

BALANCE.

1853:		£. s. d.	1853:		£. s. d.
23 Aug.	To Cash in treasurer's hands	6,718 3 3	23 Aug.	By Arrears of dividends and interest on bonds	1,288 1 3
	Exchequer bills	7,000 – –		Interest on bonds due this day	1,295 16 –
	Balance of disbursements	60 1 7		Dividend of 4 *s.* on annuities	7,500 – –
					10,083 17 3
				Balance in reserve	3,694 7 7
	£.	13,778 4 10		£.	13,778 4 10

Examined, (signed) *C. P. Bousfield*, *John Lyon*, } Auditors.

(B.)

Dr. The Waterloo Bridge Company, Half-year ended the 23d February 1854. *Cr.*

INCOME.	£. s. d.	£. s. d.	CONTRA.	£. s. d.
To foot toll received from the 23d of August last to this date - -	4,921 – 5		By Wages of ten toll collectors, roadman, and messenger - - - - -	500 14 –
Horse toll - ditto -	4,423 12 11		Lighting the bridge and approaches with gas - - - - - -	81 12 –
		9,344 13 4	Watering, &c., as per contract -	65 – –
Rents of arched vaults for half a year - -	382 7 6		Oiling and cleaning indicators, ditto	10 – –
Ditto of the London Gas Company - -	75 – –		Coals and candles for offices, 1 year -	20 – –
Ditto of Electric Telegraph Company -	12 10 –		Repairs of roads, including materials	128 7 3
Interest, half-year's dividend upon 2,388 *l.* 1 *s.* 2 *d.* Reduced 3 *l.* per cents., purchased with the consideration received for a lease of 10 arched vaults, as directed by the 58 Geo. 3 - -	35 16 5		Rent of Company's house - -	63 – –
			Taxes - - - - - - -	20 19 9
			Remuneration to directors and auditors - - - - - - -	105 – –
			Salaries of chief clerk and assistant clerk, and allowance to W. Boardman - - - - - - -	288 – –
			Great coats for toll men - - -	16 10 –
			Stationery - - - - -	3 1 6
			Printing and books - - -	14 17 –
			Painting toll-houses, &c. - - -	27 – 4
			Christmas gift to treasurer's clerks -	5 5 –
			Incidental expenses - - - -	18 4 3
Watering, per contributions - - -	15 – –		Sundry repairs - - - -	5 10 6
		520 13 11	Advertisements - - - -	3 15 10
Stock appropriated - - - -		741 – 10	Expenses - - -	1,376 17 5
			Hunter and English, Kentish rag stone, &c. - - - - - -	195 3 9
			Income duty - - - - -	238 10 11
			Total Disbursements -	1,810 12 1
			Interest on bonds at 5 *l.*, 4 *l.*, and 3 *l.* 10 *s.* per cent. (less income duty)	1,295 16 –
			Dividend of 4 *s.* in the pound on annuities upon 37,500 *l.*, due this half year - - - - - - -	7,500 – –
	£.	10,606 8 1	£.	10,606 8 1

BALANCE.

1854:		£. s. d.	1854:		£. s. d.
23 Feb. -	To Cash in treasurer's hands	5,728 12 4	23 Feb. -	By Arrears of dividends and interest on bonds -	967 2 –
	Exchequer bills - -	7,000 – –		Interest on bonds due this day - - -	1,295 16 –
				Dividend of 4 *s.* on annuities - - -	7,500 – –
				Balance of disbursements	12 7 7
				Balance in reserve -	2,953 6 9
	£.	12,728 12 4		£.	12,728 12 4

Examined, (signed) *C. P. Bousfield*, *John Lyon*, *B. B. Turner*, } Auditors.

(C.)

STATEMENT of Bridge Tolls Received, made up to the several Periods at which the same have been divided.
(The Bridge was opened on the 18th June 1817.)

Date to	Horse Gate.	Foot Gates.	Total, Half-year.	Annual Total.	Dividends and Amount in the Pound.		
	£. s. d.	£. s. d.	£. s. d.	£. s. d.		s. d.	
23 Aug. - 1817	Horse and foot together		2,000 3 –	- - -	–	- -	9 weeks and 2 days.
23 Feb. - 1818	654 11 4	2,727 3 4	3,381 14 8	- - -	1st	1 –	- 35 weeks and 4 days' receipts.
				5,381 17 8			
August 1818	949 13 3	2,982 13 4	4,932 6 7	- - -	2d	2 2	
February 1819	902 14 11	3,260 17 3	4,163 12 2	- - -	3d	2 –	
				9,095 18 9			
August 1819	1,189 14 11	4,339 18 –	5,529 12 11	- - -	4th	2 4	
February 1820	967 9 6	3,324 12 –	4,292 1 6	- - -	5th	1 8	
				9,821 14 5			
August 1820	1,379 11 10	4,073 – 7	5,652 12 5	- - -	6th	2 2	
February 1821	1,148 10 8	3,915 17 4	5,064 8 –	- - -	7th	2 –	
				10,717 – 5			
August 1821	1,566 6 8	4,659 7 6	6,225 14 2	- - -	8th	2 6	
February 1822	1,307 10 –	4,307 4 3	5,614 4 3	- - -	9th	2 2	
				11,839 18 5			
August 1822	1,732 2 6	4,924 7 10	6,656 10 4	- - -	10th	2 8	
February 1823	1,393 5 11	4,298 7 1	5,691 13 –	- - -	11th	2 2	
				12,348 3 4			
August 1823	1,789 2 8	5,182 7 9	6,971 10 5	- - -	12th	2 8	
February 1824	1,577 2 4	4,946 8 –	6,523 10 4	- - -	13th	2 6	
				13,495 – 9			
August 1824	1,805 19 5	5,509 8 8	7,315 18 1	- - -	14th	2 10	
February 1825	1,762 9 8	5,308 14 4	7,071 4 –	- - -	15th	2 10	
				14,387 2 1			
August 1825	1,819 18 9	6,108 17 7	7,928 16 4	- - -	16th	3 2	
February 1826	1,444 16 –	5,585 4 5	7,030 – 5	- - -	17th	3 –	
				14,958 16 9			
August 1826	1,610 19 1	5,885 14 3	7,496 13 4	- - -	18th	3 –	
February 1827	1,280 16 2	5,136 12 4	6,417 8 6	- - -	19th	2 8	
				13,914 1 10			
August 1827	1,608 9 7	5,663 – 2	7,271 9 9	- - -	20th	2 10	
February 1828	1,364 3 8	5,082 19 8	6,447 3 4	- - -	21st	2 6	
				13,718 13 1			
August 1828	1,506 10 6	5,736 15 8	7,243 6 2	- - -	22d	3 –	
February 1829	1,193 8 6	5,199 2 8	6,392 11 2	- - -	23d	2 6	
				13,635 17 4			
August 1829	1,396 7 5	5,345 1 6	6,741 8 11	- - -	24th	2 8	
February 1830	1,135 5 9	4,741 5 8	5,876 11 5	- - -	25th	2 2	
				12,618 – 4			
August 1830	1,377 9 2	5,263 5 8	6,640 14 10	- - -	26th	2 6	
February 1831	1,129 7 11	4,727 – 3	5,856 8 2	- - -	27th	2 2	
				12,497 3 –			
August 1831	1,901 – 8	5,435 15 5	7,356 16 1	- - -	28th	3 –	
February 1832	1,178 9 5	4,879 16 8	6,058 6 1	- - -	29th	2 2	
				13,395 2 2			
August 1832	1,360 4 2	5,052 15 –	6,412 19 2	- - -	30th	2 6	
February 1833	1,199 6 5	4,448 5 4	5,647 11 9	- - -	31st	2 2	
				12,060 10 11			
August 1833	1,472 11 1	4,861 1 9	6,333 12 10	- - -	32d	2 6	
February 1834	1,413 17 9	4,776 9 4	6,190 7 1	- - -	33d	2 4	
				12,523 19 11			
August 1834	1,543 11 11	5,092 8 8	6,636 – 7	- - -	34th	2 6	
February 1835	1,275 5 3	4,788 3 10	6,063 9 1	- - -	35th	2 4	
				12,699 9 8			
August 1835	1,497 15 6	5,006 18 10	6,504 14 4	- - -	36th	2 6	
February 1836	1,286 7 –	4,703 – 5	5,989 7 5	- - -	37th	2 2	
				12,494 1 9			

Date to	Horse Gate. £.	s.	d.	Foot Gates. £.	s.	d.	Total, Half-year. £.	s.	d.	Annual Total. £.	s.	d.	Dividends and Amount in the Pound.	s.	d.	——
August 1836	1,561	16	–	5,090	8	9	6,652	4	9	-	-		38th	2	8	- - 31 December 1836, horse toll received.
February 1837	1,307	9	4	4,831	6	9	6,138	16	1	-	-	-	39th	2	2	
										12,791	–	10				
August 1837	1,521	9	3	5,155	12	3	6,677	1	6	-	-	-	40th	2	8	
February 1838	1,468	1	10	4,918	3	10	6,386	5	8	-	-	-	41st	2	6	Repairing Fleet-street.
										13,063	7	2				
August 1838	1,735	19	5	5,353	17	7	7,089	17	–	-	-	-	42d	3	–	Coronation.
February 1839	1,526	6	1	4,967	11	–	6,493	17	1	-	-	-	43d	2	6	
										13,583	14	1				
August 1839	1,700	9	10	5,260	11	11	6,961	1	9	-	-	-	44th	2	8	- - 1 July 1839, horse toll received.
February 1840	1,516	12	2	5,057	8	3	6,574	–	5	-	-	-	45th	2	6	Queen's marriage.
										13,535	2	2				
August 1840	2,242	17	1	5,340	2	10	7,582	19	11	-	-	-	46th	3	2	- - Blackfriars-bridge closed.
February 1841	2,003	16	–	4,855	7	4	6,859	3	4	-	-	-	47th	2	6	- - ½ *d.* toll commenced 1st March.
										14,442	3	3				
August 1841	2,665	15	11	4,807	19	1	7,473	15	–	-	-	-	48th	2	8	- - Westminster-bridge closed 21 days.
February 1842	1,510	11	6	4,636	4	1	6,146	15	7	-	-	-	49th	2	6	
										13,620	10	7				
August 1842	1,736	16	6	5,091	15	7	6,828	12	1	-	-	-	50th	2	6	
February 1843	1,635	10	4	4,885	17	1	6,521	7	5	-	-	-	51st	2	6	
										13,349	19	6				
August 1843	2,212	7	10	5,225	14	8	7,438	2	6	-	-	-	52d	2	10	
February 1844	3,965	15	7	5,122	4	3	9,087	19	10	-	-	-	53d	3	–	- - Westminster bridge closed 10 weeks.
										16,526	2	4				
August 1844	2,478	9	8	5,384	1	10	7,862	11	6	-	-	-	54th	3	2	
February 1845	2,694	18	3	5,232	18	8	7,927	16	11	-	-	-	55th	3	–	
										15,790	8	5				
August 1845	2,530	7	1	4,817	17	9	7,348	4	10	-	-	-	56th	3	2	- - Hungerford-bridge opened 1 May 1845.
February 1846	2,564	4	1	4,588	10	11	7,152	15	–	-	-	-	57th	3	–	
										14,500	19	10				
August 1846	3,088	12	10	4,554	10	–	7,643	2	10	-	-	-	58th	3	2	
February 1847	6,495	1	5	4,529	11	3	11,024	12	8	-	-	-	59th	3	6	- - Westminster-bridge closed 19 weeks.
										18,667	15	6				
August 1847	2,771	–	2	4,552	6	8	7,323	6	10	-	-	-	60th	3	2	
February 1848	2,405	18	9	4,200	1	4	6,606	–	1	-	-	-	61st	3	–	
										13,929	6	11				
August 1848	2,804	18	9	4,262	10	9	7,067	9	6	-	-	-	62d	3	–	
February 1849	2,964	8	4	4,481	7	7	7,445	15	11	-	-	-	63d	2	10	
										14,513	5	5				
August 1849	3,500	17	7	4,580	13	10	8,081	11	5	-	-	-	64th	3	–	Station opened.
February 1850	3,007	10	2	4,360	1	4	7,367	11	6	-	-	-	65th	2	10	
										15,449	2	11				
August 1850	3,758	–	9	4,676	17	11	8,434	18	8	-	-	-	66th	3	–	
February 1851	3,488	2	4	4,551	13	8	8,039	16	–	-	-	-	67th	3	–	
										16,474	14	8				
August 1851	5,158	2	9	5,546	7	1	10,704	9	10	-	-	-	68th	3	6	Great Exhibition.
February 1852	4,307	7	2	5,236	4	5	9,543	11	7	-	-	-	69th	3	6	
										20,248	1	5				
August 1852	4,459	11	3	4,858	16	10	9,318	8	1	-	-	-	70th	3	6	
February 1853	4,026	6	7	4,744	2	5	8,770	9	–	-	-	-	71st	3	6	
										18,088	17	1				
August 1853	4,804	10	9	5,047	16	10	9,852	7	7	-	-	-	72d	4	–	
February 1854	4,423	12	11	4,921	–	5	9,344	13	4	-	-	-	73d	4	–	
										19,197	–	11				

Note.—£. 312 10 *s.* will pay 2 *d.* in the pound on both classes of the Annuities.

Appendix, No. 5.

PAPER delivered in by *James Leith*, Esq., 23 May 1854.

(D.)

SOUTHWARK BRIDGE COMPANY.

STATEMENT of Annual Tolls, from the Opening of the Bridge on Lady-day 1819 to the 31st December 1835.

	£.	s.	d.
Amount of toll for year 1819 (9 months) -	5,044	3	1
Ditto - - - - 1820 - - -	5,064	7	6
Ditto - - - - 1821 - - -	4,838	12	10
Ditto - - - - 1822 - - -	5,441	15	9
Ditto - - - - 1823 - - -	5,917	11	3
Ditto - - - - 1824 - - -	5,562	16	1
Ditto - - - - 1825 - - -	6,685	9	11
Ditto - - - - 1826 - - -	6,742	14	1
Ditto - - - - 1827 - - -	6,621	14	9
Ditto - - - - 1828 - - -	6,939	12	4
Ditto - - - - 1829 - - -	6,807	4	1
Ditto - - - - 1830 - - -	7,110	4	10
Ditto - - - - 1831 - - -	6,846	3	5
Ditto - - - - 1832 - - -	4,544	4	–
Ditto - - - - 1833 - - -	4,528	–	2
Ditto - - - - 1834 - - -	3,983	4	5
Ditto - - - - 1835 - - -	3,666	4	11
Ditto - - - - 1836 - - -	3,700	7	5
Ditto - - - - 1837 - - -	3,576	8	9
Ditto - - - - 1838 - - -	3,713	2	–
Ditto - - - - 1839 - - -	3,670	3	6
Ditto - - - - 1840 - - -	3,774	16	8
Ditto - - - - 1841 - - -	4,481	18	11
Boats -	242	3	7

	£.	s.	d.
Amount of toll for year 1842 - - -	3,965	7	2
Boats -	303	8	6
Ditto - - - - 1843 - - -	4,458	1	6
Boats -	350	–	–
Ditto - - - - 1844 - - -	3,618	6	9
Boats -	340	–	–
Ditto - - - - 1845 - - -	3,533	11	8
Boats -	370	–	–
Ditto - - - - 1846 - - -	3,511	19	7
Boats -	370	–	–
Ditto - - - - 1847 - - -	3,538	8	9
Boats -	240	–	–
Ditto - - - - 1848 - - -	3,282	14	9
Boats -	320	–	–
Ditto - - - - 1849 - - -	2,875	7	8
Boats -	190	–	–
Ditto - - - - 1850 - - -	2,746	3	–
Boats -	150	–	–
Ditto - - - - 1851 - - -	2,666	–	10
Boats -	74	10	–
Ditto - - - - 1852 - - -	3,977	1	–
Ditto - - - - 1853 - - -	2,750	10	1
Ditto - - - - 1854 - - -	2,913	8	10

(E.)

SOUTHWARK BRIDGE.

Gate Traffic for Four Weeks, from 1st to 28th August 1851, during the Period that London Bridge was partially shut up for Paving.

	1st Week.	2d Week.	3d Week.	4th Week.	Total.
Saddle Horses, at 1 *d.* - - -	550	472	426	375	1,823
Omnibuses, at 3 *d.* - - - -	4,638	4,853	4,663	4,116	18,270
Carriages, at 2 *d.* - - - -	3,516	3,390	4,198	3,773	14,877
Ditto - at 3 *d.* - - - -	189	166	151	165	671
Ditto - at 4 *d.* - - - -	198	196	160	159	713
Carts, at 1 ½ *d.* - - - -	8,713	8,769	7,892	7,714	33,088
Ditto, at 2 ½ *d.* - - - -	503	567	468	472	2,010
Waggons, at 2 *d.* - - - -	1,020	941	804	999	3,764
Ditto - at 3 *d.* - - - -	1,048	927	797	844	3,616
Ditto - at 4 *d.* - - - -	489	431	331	482	1,733
Ditto - at 5 *d.* - - - -	152	121	123	116	512
Trucks, at 1 *d.* - - - -	1,239	976	814	663	3,692
	22,255	21,809	20,827	19,878	84,769

(F.)

SOUTHWARK BRIDGE COMPANY.

DIVIDENDS paid on the PREFERABLE INTEREST SHARES; viz. 1,700 Shares at £. 50 each, and 5,000 Shares at £. 13. each.

		£.	s.	d.
	For year 1824, 2*l.* per share on 1,700 shares	3,400	–	–
	Ditto - 1825, 1*l.* 10*s.* per share on 1,700 shares - £.2,550			
	Ditto - „ 4*s.* per share on 5,000 shares - 1,000			
		3,550	–	–
	For year 1826, 3 per cent. on both classes of shares ad valorem	4,500	–	–
	Ditto - 1827 - ditto - - - - ditto	4,500	–	–
	Ditto - 1828 - ditto - - - - ditto	4,500	–	–
	Ditto - 1829 - ditto - - - - ditto	4,500	–	–
	Ditto - 1830, 3½ per cent. - - - ditto	5,250	–	–
	Ditto - 1831 - ditto - - - - ditto	5,250	–	–
	Ditto - 1832, 2½ per cent. - - - ditto	3,750	–	–
	Ditto - 1833, 2 per cent. - - - ditto	3,000	–	–
	Ditto - 1834 - ditto - - - - ditto	3,000	–	–
	Ditto - 1835, 1¾ per cent. - - - ditto	2,625	–	–
	Ditto - 1836, ¾ per cent. - - - ditto	2,625	–	–
	Ditto - 1837 - ditto - - - - ditto	2,625	–	–
Bridge painted - - -	Ditto - 1838 - ditto - - - - ditto	1,500	–	–
Ditto - - £. 100	Ditto - 1839, 1½ per cent. - - - ditto	2,250	–	–
Ditto - - - 100	Ditto - 1840 - ditto - - - - ditto	2,250	–	–
Liquidation Pier 1,300 Painted - - - 100	Ditto - 1841 - ditto - - - - ditto	2,250	–	–
Liquidation Pier 37,693 Painted - - - 100	Ditto - 1842, 1¾ per cent. - - - ditto	2,625	–	–
Liquidation Pier - 500 Painting - - - 100	Ditto - 1843, 1¾ - ditto - - - ditto	2,625	–	–
Closed and Liquidation Pier - - 200	Ditto - 1844, 1½ - ditto - - - ditto	2,250	–	–
Painting - - - 100	Ditto - 1845, 1½ - ditto - - - ditto	2,250	–	–
Painting - - - 100	Ditto - 1846, 1½ - ditto - - - ditto	2,250	–	–
Painting - - - 100	Ditto - 1847, 1½ - ditto - - - ditto	2,250	–	–
Painting - - - 100	Ditto - 1848, 1½ - ditto - - - ditto	2,250	–	–
Painting - - - 50	Ditto - 1849, 1¼ - ditto - - - ditto	1,875	–	–
Painting - - - 50	Ditto - 1850, 1 - ditto - - - ditto	1,500	–	–
	Ditto - 1851, 1 - ditto - - - ditto	1,500	–	–
Bridge Macadamising 250	Ditto - 1852, 1½ - ditto - - - ditto	2,250	–	–
	Ditto - 1853, 1 - ditto - - - ditto	1,500	–	–
	Ditto - 1854, 1 - ditto - - - ditto	1,500	–	–

Appendix, No. 6.

LETTER from *G. Rennie*, Esq., to *B. Oliveira*, Esq., M.P., Chairman.

Appendix, No. 6.

Sir, London, 13 June 1854.

As the questions proposed to me by the Committee on the Metropolitan Bridges were confined to Southwark Bridge, I had not an opportunity of giving my opinion upon the subject generally.

The continual increase of the population and buildings on both sides of the river, as well as the large circulating traffic of the provinces, render the existing communications over the free bridges of London, Blackfriars and Westminster, totally inadequate. This inconvenience is greatly increased by the tolls on Southwark, Waterloo and Vauxhall Bridges, the abolishing of which would greatly relieve the pressure upon the three free bridges; but in every case other bridges would be required. The sites suited to them should divide the distances between the existing bridges as equally as circumstances will permit. The sites proposed in the plan of London, appended to the Third Parliamentary Report on Westminster Bridge in 1846, viz.:

1. Opposite the Horseferry in Church-street, Lambeth;
2. Charing-Cross Bridge and the Railway Station, near Waterloo Bridge, may answer.

Sites for bridges might also be chosen between Westminster and Waterloo Bridges, in a line from Lett's timber yard, Commercial-road, Lambeth, and Essex-street, Strand; between Blackfriars and Southwark, in a line with the south front of St. Paul's church, and the south-west corner of Holland-street; thus the distances between the bridges would be nearly equal.

The various streets leading to and from these bridges might be made to converge either at the Obelisk, St. George's Fields, or the Elephant and Castle.

As regards the state of the existing Metropolitan Bridges, I can speak with confidence of the bridges erected by our family, as having been constructed upon the best principles of science, both in their foundations and superstruction, and with reference to any changes which the bed of the river Thames might undergo by the removal of Old London Bridge. The foundations of their abutments and piers were carried down to the natural bed of London clay, lying beneath the gravel, by piles driven at equal intervals into the clay, and further secured from the action of the current by a continuous row of sheet piles all round them. So that it is absolutely impossible in the natural course of things that any alteration in the bed of the river can affect the foundations of those bridges. Unfortunately this is not the case with the foundations of either of Westminster or Blackfriars Bridges; the former having been laid in caissons in the bed of the river (without piles) and the latter in caissons on a small number of piles unprotected by sheet piles. The result has been what was predicted, and guarded against by the late Mr. Rennie in the foundations of his bridges. The removal of Old London Bridge by an excavation and lowering of the bed of the river under the bridges of Westminster and Blackfriars, and a failure in their superstructions, so as to occasion the necessity of their being rebuilt entirely, reasons which induced me to recommend their discontinuance in future in London.

As regards the nature and form in which any other new bridges should be built, I have no hesitation in repeating the words I uttered in my evidence given before the Committee on Westminster Bridge in 1846, namely, "that the form of the bridge should be in strict accordance with the best principles of science; that arches, both in theory and practice, should have a certain form; the segmental arch being the most scientific, and the elliptical the most elegant. That such a bridge as Westminster should be of stone, and have seven elliptical arches, as harmonising better with the architecture of the Houses of Parliament; but that Gothic arches were neither scientific nor suitable. That as regards material, I considered stone better suited and more dignified than iron for a metropolitan bridge. That, although iron had been adopted in the Southwark Bridge, it was principally on account of the narrowness and consequent rapidity of the river in that part. Iron was chosen as better adapted to the large spans which were required for the arches of that bridge.

I particularly objected to suspension bridges from their instability, and the continual tear and wear of their parts.

As regards the width of the bridges, particularly the extreme width proposed for Westminster, I think that 50 or 60 feet would have been ample, with the other bridges thrown open to the public. The lowness of the bridge and of its arches, and its extreme width, and its being constructed of iron, will always detract from the dignity which a metropolitan bridge ought to have.

Finally, whatever bridges may be erected in the metropolis, the character of their architecture should be simple and bold, and devoid of insignificant ornament, so that they shall represent the character as well as the wealth of the nation.

I remain, &c.
(signed) *George Rennie.*

To Benjamin Oliveira, Esq., M.P.,
Chairman.

Appendix, No. 7.

LETTER from *T. Page*, Esq., to *B. Oliveira*, Esq., M. P., Chairman, referred to in his Evidence, 15 June 1854. Appendix, No. 7.

Thames Embankment Office, 2, Middle Scotland Yard,
May 1854.

Sir,

With reference to the inquiry by the Select Committee of the House of Commons upon the Metropolitan Bridges, and as to the best means of improving the communication across the river, I beg leave to lay before you, in addition to my evidence already given, the following observations.

There can be no doubt in the mind of any one acquainted with the traffic of London that more bridges are urgently required, but it appeared to be a question with the Committee whether new bridges should be built, or the toll bridges purchased and opened free to the public.

It is, however, manifest that the first object should be to provide communications across the river in the lines of direct traffic, because by that course not only would the distance and time between the central points of the traffic be reduced to a minimum, but the streets now subjected to a circuitous traffic would be relieved.

It would be superfluous to dwell upon the advantages of pursuing such a plan, the saving of time, labour, wear and tear of vehicles and streets, &c., because the Committee will instantly comprehend them.

It is also equally manifest, that the purchase of the toll bridges would not effect this object, for there are several main lines of streets leading to the river, which these bridges do not accommodate, and it is for avoiding circuitous routes that new bridges are required; and it may be added, that although a toll, like all direct taxes, is vexatious, yet by reference to the position of the toll bridges, it will be seen that the payment of toll is amply compensated for by the saving of distance which would be otherwise travelled in reaching a free bridge. Even in a common cab the payment of 2*d.* would save an additional 6*d.* in the fare, supposing the route by the toll bridge avoided the commencing another mile; and for heavy carriages, the saving by passing over a toll bridge is proportionably greater.

Moreover, the purchase of the toll bridges would require a considerable sum, which, if expended in providing new bridges, would give the public the accommodation urgently required, leaving them at the same time the option of the facilities offered by the toll bridges.

Reference to a plan of London will show that the sites which I suggested for new bridges for the West-end, viz., the neighbourhood of the Horseferry and Charing-cross, would unite leading lines of important traffic on each side of the river.

In the first case the distance between Chelsea and the Obelisk by the proposed new bridge, compared with the distance between the same points by Vauxhall Bridge, would be reduced 853 yards, and the distance from Chelsea to London Bridge would be reduced 500 yards; but for the object of avoiding purchase of property in houses on the Middlesex side, the site of the bridge, instead of being fixed at the Horseferry, might be advantageously changed to the Grosvenor Wharf (below the Penitentiary), with an approach on the Surrey side from Lambeth Walk.

By the formation of a bridge at Charing Cross, with approaches from the Nelson Column, Scotland Yard, and Whitehall, and by a road branching into the Waterloo-bridge Road, an almost direct line of road would be obtained from Trafalgar Square to the Obelisk, and the line of road through Whitehall, Parliament Street, and Bridge Street (Westminster and Lambeth) would be cleared of a traffic which, for want of a new bridge, is forced over Westminster Bridge, with great detriment and loss to the owners of carriages, and with danger to the public. It must have been observed by Members of the Committee that this great traffic and the neglect of the scavengers have, during great part of last winter, rendered this line between Charing Cross and Westminster Bridge one of the most crowded and dirty thoroughfares in London.

It will be evident to the Committee that a bridge at Charing Cross should be nearly at right angles to the line which the river will form under a proper plan of embankment, as whatever saving of distance might be obtained by a skew bridge, the extra expense of such a structure, and the injurious effect of its oblique lines upon the buildings on the shore, would offer grave objections to its adoption.

Since I gave evidence before the Committee, I have considered more particularly the question of additional bridges for the city and districts eastward of it, by which the traffic over London Bridge might be reduced, and I would submit the following remarks for the consideration of the Committee.

It will be seen that London Bridge forms the only passage for the traffic from one side of the river to the other for 16 square miles on each side of the river to the eastward of its site. It is not to be expected that any new bridge above London Bridge would relieve the latter of any portion of this traffic; for supposing such bridge unencumbered, the circuitous route to it from the eastward through already crowded thoroughfares, would prevent any attempt to reach it; but it is certain that if the means were provided for crossing the river below London Bridge this object would be effected, and London Bridge would then be found sufficient for the traffic due to it.

There could, however, be no bridge below the entrance to the St. Katherine's Docks, but it may be anticipated there could be no objections, as far as the navigation of the river is

Appendix, No. 7.

concerned, to a bridge westward of that entrance, and a good site for such a bridge will be found in the line of Tower Hill along the road adjoining the western warehouses of the St. Katherine's Dock, which road could be kept open for the present traffic, while it would afford an approach to the bridge above.

The elevation of this bridge would be regulated by the levels of its approaches on the Middlesex side, and by the requirements of the vessels which go up to London Bridge, so that all the vessels which lie above St. Katherine's would pass under the new bridge by striking their topmasts.

In order to accommodate this class of shipping, a bridge crossing the river at this point should be a suspension bridge of one span, (viz., 850 feet), and the piers supporting the chains should be on the line of the shore, so that the Upper Pool would not in the least degree be contracted by the piers.

I have ascertained by inquiry, that most of the vessels that come above Irongate Stairs would, when their topmasts are struck, pass under a bridge with a headway of 70 feet above Trinity high-water.

Taking this as the headway of the bridge, the approaches on the Middlesex side could be obtained at a gradient of 1 in 40, and the approach on the Surrey side by a similar gradient.

On the Middlesex side, the approach should be supported on isolated pillars or piers, and this system could be followed on the Surrey side until the intersection of the levels of the houses and the approach rendered it advisable to form a new street.

It should be stated, that the value of the property on the Surrey side would be increased considerably by such a communication.

Vide Plan (VII.)

The accompanying plan shows the proposed site for the bridge, and the connexion of its approaches with the streets on both sides of the river.

The approach on the Surrey side would be considerably longer than the approach on the Middlesex side, as the ground is on that side 28 feet lower than the level of Tower Hill.

At the easy gradient of 1 in 40, the approach on the Middlesex side would be 1,300 feet in length, and that on the Surrey side 2,400 feet.

To a person whose attention is first directed to the subject, it may appear a bold idea to propose a suspension bridge over the Upper Pool; but upon consideration of the important effects of such a structure upon the crowded thoroughfares of the city, it will appear surprising that such a work has been so long deferred.

Members of the Committee may have probably traversed the celebrated suspension bridge over the River Dordogne at Cubsac, near Bordeaux. This bridge, a wire bridge, is 1,800 feet in length over the river; its arched approaches are 1,650 feet in length, and its embanked approaches 3,557 feet in length; making a total length of bridge and approaches of 7,000 feet, or more than a mile and a quarter.

Its height above the water line is 93 feet; the levels of the ground, as compared with the river, resemble those of the ground on the Surrey side of the Thames. It replaced a ferry, where passengers and carriages were passed across the river by ferry-boat, causing a delay in the journey of a quarter to half an hour.

If it were thought sufficiently important to construct this bridge, to save the delay and inconvenience of a ferry, of how much greater importance is it to open the proposed means of communication across the river at St. Katherine's, in the midst of a populous commercial city, the traffic of which, for want of such a bridge, is too great for its present thoroughfares.

From an estimate I have made of such a structure, the expense of the bridge and approaches, without purchase of property, would be 450,000 *l.*; and I may add, that contracts for the Chelsea Bridge give me the best opportunity of coming to a right conclusion on this expense.

By the adoption of a different mode of suspension, the bridge could be made available for railways.

The formation of carriage approaches to the Thames Tunnel, situated 1½ mile below London Bridge, would open out an important line of communication across the river, and would relieve London Bridge to a great extent of its superabundant traffic.

The carriage-ways and footways of the tunnel and the descents for foot-passengers are completed, and that which is now required to make the tunnel a valuable thoroughfare is the means of descent for carriages on both sides of the river.

These might be formed either by the great circular shafts and spiral carriage-way, as designed by the great projector and engineer of the work, Sir Isambard Brunel, or might be obtained by steep inclined planes rising from the floor of the foot-passengers' shafts at the Rotherhithe and Wapping ends of the tunnel.

In this case, one of the archways of the tunnel and the two inclined planes would be adapted for a railway, and the traffic would be conducted along this line in carriages worked by steam power; this latter proceeding would be eventually most advantageous to the public and the proprietors, as it would lead to a junction of the railways on the north and south sides of the Thames.

Projects for accomplishing the connexion of the railways in this manner have been so far forwarded as to have led their promoters to deposit Parliamentary plans for them, and it may be anticipated that a work which reflects such credit upon its projector will ultimately take that position as a valuable thoroughfare, to which its engineering merits, its situation, and the facilities it would afford for meeting the increasing demands for traffic accommodation give it so strong a claim.

The formation of the great descents, 200 feet in diameter, as designed by Sir Isambard Brunel, would amount to 120,000 *l.* These would allow of the ascent and descent of carriages

riages along a spiral roadway, at 4 in 100. An increased diameter would, though attended by an increase of expense, reduce this gradient to one more adapted for the traffic. Appendix, No. 7.

If, however, aid were afforded by Government, to the extent, say, of 50,000 *l.*, the means of passing carriages through the tunnel could be provided, which would avoid the necessity of descending and ascending by horse power, and would prepare the tunnel for the formation of a junction between the railways on both sides of the river.

The tunnel has been opened 11 years, and in that period 12,456,563 passengers have passed through it, or 1,132,415 passengers per annum.

I have, &c.
(signed) *Thos. Page.*

B. Oliveira, Esq., M. P.,
&c. &c. &c.

Appendix, No. 8.

AN ACCOUNT of MONIES Received by the CORPORATION of *Kingston-upon-Thames*, in the County of *Surrey*, as Commissioners for re-building Kingston Bridge, between the 1st day of September 1852 and the 1st day of September 1853. Appendix, No. 8.

1852:		£.	s.	d.
	Balance due from the last year's account - - -	516	8	2
September -	One year's fee farm rent, due from the Trustees of the Free Grammar School, to Michaelmas 1851 - -	1	–	–
1853:				
March 15	Mary Truelove Elmes, one year's fee farm rent to Michaelmas 1852 - - - - - - - - -	3	–	–
August 2	The Representative of John Aspin, two years' rent to Michaelmas 1852 - - - - - - - -	9	10	–
„ 13	William Miles, one year's rent for meadow, to Michaelmas 1852 - - - - - - - - - -	8	8	–
„ 16	The Trustees of Free Grammar School, one year's fee farm rent, to Michaelmas 1852 - - - -	1	–	–
„ 18	John Edmonds, one year's rent for land, to Michaelmas 1852 - - - - - - - - - -	7	–	–
„ „	George Goldring, one year's fee farm rent for tenement, to Michaelmas 1852 - - - - - - -	1	5	–
„ „	Ditto, one year's fee farm rent for another tenement, to Michaelmas 1852 - - - - - - - -	1	15	–
„ 29	James Attfield, for two years' fee farm rent for garden, at Norbiton, to Michaelmas 1852 - - - - -	4	–	–
„ „	William Kent, for three years' fee farm rent for cottages, in Old Bridge-street, Kingston, to Michaelmas 1852 -	4	–	–
„ 30	The Representatives of William Walton, for one year's rent, to Michaelmas 1852, for Bridge Barn - -	30	–	–
„ „	The Treasurer of the Borough Fund, one year's fee farm rent for Clattern House, to Michaelmas 1852 - -	2	2	–
„ „	The like, for land at Hersham, to Michaelmas 1852 -	1	11	–
„ „	The like, for one year's rent for towing-path, to Michaelmas 1852 - - - - - - - - -	24	–	–
„ „	The like, for Reed's Ayot, to Michaelmas 1852 - -	1	12	–
„ „	The like, for Warner's Ayot, to Michaelmas 1852 - -	4	4	–
„ „	The like, for Bridge Wharf, to Michaelmas 1852 - -	25	6	8
„ „	The Lessee of the Tolls of Kingston Bridge, one year's rent, to 1 September 1853 - - - - - -	2,200	–	–
	£.	2,846	1	10

Appendix, No. 8. AN ACCOUNT of Monies Disbursed and Paid by the Corporation of *Kingston-upon-Thames*, in the County of *Surrey*, as Commissioners of Kingston Bridge, between the 1st day of September 1852 and the 1st day of September 1853.

		£. s. d.
1852: September 20	The Trustees of the Grammar School, one year's quit rent to Midsummer 1851	– – 10
October 19	Mary Ann Squire, for one year's watering the Bridge Road	25 – –
„ 25	Charles Edward Jemmett, as clerk to Commissioners. Law Expenses	34 9 –
„ 30	John Stanford, for flints for Bridge Road	9 – –
November 8	Exchequer Bill Commissioners, an instalment of Bridge debt, and interest	489 9 1
1853: January 6	Lessees of Tolls, their expenses at the last letting	5 – –
„ 25	One year's insurance of Bridge Barn to Christmas 1853	– 16 6
February 7	Exchequer Bill Commissioners, an instalment of principal and interest	491 1 –
March 13	Sarah Truelove Elmes, for one year's land-tax	– 8 –
April 6	W. E. Weston, for 57 loads of flints for Bridge and Bridge Road	31 7 –
May 18	Exchequer Bill Commissioners, an instalment for principal and interest	518 1 –
August 2	The representatives of John Aspin, two years' property-tax to Lady-day 1852	– 5 6
„ 13	William Miles, one year's land-tax and property-tax	– 9 8
„ „	Frederick Pyle, for 52 weeks' labour on Bridge Road to this day	15 12 –
„ 16	The Trustees of the Grammar School, one year's quit rent to Midsummer 1852	– – 10
„ „	John Edmonds, one year's property-tax to Lady-day 1852	– 4 1
„ „	George Golding, one year's land-tax to Michaelmas 1852	– 5 –
„ „	Mary Stanford, for flints for Bridge Roads	– 18 –
„ „	George Golding, for smith's work at Toll-house	1 5 6
„ „	The Exchequer Bill Commissioners, an instalment for principal and interest	484 12 11
„ 18	Edward Stevens, for brooms	– 10 4
„ 19	The Gas Company, one year's lighting the Bridge lamps, to 1st May 1853	39 7 6
„ 25	Samuel Mason the younger, for carpenter's work at the Toll-house	1 1 3
„ 27	Henry Selfe, for glazing and plumber's work there	1 11 6
„ „	Henry Walker, for plasterer's work there	– 8 –
„ „	The representatives of William Walker, for a year's land and property-tax on Bridge Barn, to Michaelmas 1852	2 1 8
„ „	The Treasurer of the Borough Fund, for one year's property-tax on Clattern-house, to Michaelmas 1852	– 1 2
„ „	The like on Hersham land, to Michaelmas 1852	– – 11
„ „	The like on towing-path, to Michaelmas 1852	– 14 –
„ „	The like on Reed's Ayte, to Michaelmas 1852	– 2 5
„ „	The like on the other Ayte, to Michaelmas 1852	– – 11
„ „	The like on Bridge wharf, to Michaelmas 1852	– 14 9
„ „	To sundries, stamps, &c.	– 8 9
	£.	2,155 9 1

Appendix, No. 9.

PUTNEY.

Appendix, No. 9.

At a public meeting of the Inhabitants specially called, and held at the Vestry Room, on the 28th June 1854.

A. E. Dryden, Esq., Churchwarden, was voted in the Chair.

Read the notice convening the meeting.

Read the copy Petition to the House of Commons of the 4th May 1854.

It was proposed by Mr. *Reed* and seconded by Mr. *William Aviss*, "That this meeting considers a County Rate preferable in lieu of a Coal Tax, which would be objectionable unless a portion of the Coal Tax already leviable and received by the Corporation of London be applied towards the redemption of Putney Bridge tolls, as well as the tolls of the other Metropolitan Bridges."

(signed) *Alfred E. Dryden*,
Chairman.

Appendix, No. 10.

Appendix, No. 10.

TO the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

The humble Petition of the Mayor, Aldermen, and Burgesses of the Borough of Kingston-upon-Thames, in the County of Surrey, the Trustees of Kingston Bridge,

Showeth,

That your petitioners are the commissioners for the management of Kingston Bridge, and as such commissioners, under the authority of the Acts of Parliament relating to their trusts, in the year 1831 borrowed of the Exchequer Bill Commissioners, on loan, the sum of 40,000*l.* for the erection of the said bridge, and subsequently a further sum of 8,000*l.*, as the produce of the tolls of the said bridge, were borrowed by your petitioners of the said Loan Commissioners for the necessary approaches to the said bridge.

That your petitioners have out of the tolls of the said bridge repaid to the said Loan Commissioners the sum of 13,000*l.*, together with the arrears of interest on the said debt to the present time, leaving the balance of the said loan to amount to the sum of 35,000*l.* as due to the said Loan Commissioners.

That it appears by the several charters and other documents affecting Kingston Bridge, that from at least the period of the reign of Queen Elizabeth until the year 1829, the said bridge was free of toll to all persons having occasion to pass over the same between the counties of Middlesex and Surrey.

That from the ruinous condition of the late bridge, then built of wood, your petitioners were obliged to construct the present bridge in the year 1829, and for the raising of the costs for the erection of the same they were empowered to borrow the amount above mentioned.

That the tolls levied upon the public for passing over the bridge amount to the annual sum of 2,000*l.*, or thereabouts, of which two-thirds are defrayed by foot passengers, many of whom are mechanics and labourers, passing to and from their work at the respective sides of the River Thames, and which has always been felt as a great burthen to them.

That the said bridge forms the approach from the county of Surrey to the Royal palace and park of Hampton Court and the Royal domain of Bushey Park; that the same, through the bounty of the Crown, are free and open to the inspection and enjoyment of the public, but the toll payable on this bridge detracts from the entire freedom of the public in their access to these Royal properties.

That the debt now chargeable on the bridge is strictly due to the Crown, as the Commissioners of Her Majesty's Woods, Forests, and Land Revenues are the sureties to the Exchequer Bill Commissioners for the repayment of the said loan by the said Bridge Commissioners, and consequently should the Legislature think proper to free the said bridge from such debt, there would not be any amount of money to be advanced for the discharge of the said debt.

That the trustees of the said bridge are seised of certain estates, amounting in value to

Appendix, No. 10.

the annual sum of 100*l.*, or thereabouts, which could be applied to the future maintenance of the same bridge, as respects the necessary reparation thereof.

That the bridge and the approaches thereto, are situate within the Metropolitan Police district.

Your petitioners, therefore, humbly pray that your Honourable House will be pleased to allow the subject of Kingston Bridge to be referred to the Committee appointed by your Honourable House to consider the circumstances attending the Metropolitan Bridges as respects the freeing of them from toll.

(L. S.)

TO the Right Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

The humble Petition of the undersigned Freeholders and Inhabitants of Kingston-upon-Thames, in the County of Surrey, and of Hampton, Hampton Court, and Hampton Wick, in the County of Middlesex,

Showeth,

THAT for several hundred years prior to the year 1829, a free bridge existed between Kingston and Hampton Wick, connecting the counties of Middlesex and Surrey. That such bridge became unsafe for public traffic; and, under an Act of Parliament, passed in the year 1825, a new bridge was erected at a cost of 45,000*l.*, and a toll placed on such bridge.

That, by means of such toll, the interest of the money borrowed for the purpose from Her Majesty's Treasury has been constantly paid, and a sum exceeding 13,000*l.* paid off the capital; and it is calculated that with the present rate of toll the remainder of the capital and interest could not be obtained from the toll for 35 years, which would inflict on the locality for a period of nearly 65 years, past and future, a toll for the advantage of the public at large.

That at a public meeting, numerously attended, of freeholders and inhabitants of the borough of Kingston-upon-Thames, and of Hampton, Hampton Court, and Hampton Wick, held at the Town Hall in Kingston, on the 14th of March instant, it was unanimously resolved, "That the restriction on the free intercourse necessary to the welfare of society, and to the free competition of trade, arising from the toll on Kingston Bridge, is a tax of a most objectionable nature, which falls chiefly on the locality, and in a very large proportion on the poor, and that the passage across the Thames at all convenient points for the use of the public should be provided for by the public at large, or by the counties connected by the bridges, or from some broader basis than by fixing tolls upon any particular neighbourhood; and that a petition to your Honourable House be presented, praying that the Committee, appointed upon the motion of Mr. Oliveira on the 24th day of February last, on the subject of the Metropolitan Bridges, be directed to extend their inquiry, and report as to all the toll-paying bridges connecting the counties of Middlesex and Surrey.

Your petitioners, therefore, respectfully approach your Honourable House, feeling that the grievance inflicted on the neighbourhood, and more particularly between the ancient town of Kingston and the Royal palace of Hampton Court, is one that should be removed, and they earnestly implore your Honourable House to take such measures as may seem to you likely to attain so desirable an end.

And your petitioners will ever pray.

Frederick Gould, Mayor.
Edward Phillips.
H. J. Fricker.

TO the Right Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

The humble Petition of the undersigned Freeholders and Inhabitants of Hampton, in the County of Middlesex, and of the Neighbourhood,

Showeth,

THAT by virtue of an Act of Parliament of the 23d year of the reign of King George the Second, the toll on Hampton Court Bridge is redeemable by the Crown on payment of the original cost of the erection of such bridge.

That at a public meeting of freeholders and inhabitants of Hampton aforesaid, and of the neighbourhood, held on the 3d of June 1854, it was unanimously resolved,—

First. "That the restriction on the free intercourse necessary to the welfare of society, and to the enjoyment of the residents of Hampton Court Palace, and to the free competition of trade in the neighbourhood, arising from the toll on Hampton Court Bridge, is a tax of a most objectionable nature, which falls chiefly on the locality, and in a large proportion on the poor, and that the free passage across the Thames at all convenient places should be provided by the public at large, or by the counties adjacent, or from some broader basis than by toll."

Secondly,

Secondly. "That the bridge itself is in a wretched condition, and also the approaches, and the obstruction arising from the toll-gate leads to considerable danger and many accidents; that the toll is much heavier than at Kingston Bridge and many other bridges on the Thames, and that, regarding the difference in the value of money since the reign of King George the Second, and the large increase of traffic, the present toll will probably be found to pay from 20 to 30 per cent. per annum, or more, on the amount for which redemption may be obtained; and that by the exercise of the above-mentioned power, reserved for such purpose by the Legislature, an accumulation would arise in a few years which, from the toll itself, would discharge and satisfy the principal and three per cent. interest."

Thirdly. "That inasmuch as Hampton Court is within the metropolitan district, the inquiries of the Committee of the House of Commons, appointed on the motion of Mr. Oliveira, on the 24th of February last, upon the subject of the Metropolitan Bridges, should embrace Hampton Court Bridge; but to prevent all doubt on the subject, that a petition be presented to the House of Commons, praying that such Committee be directed to inquire and report upon the expediency of throwing open all the bridges on the Thames connecting Middlesex and Surrey; and also as to the original cost of Hampton Court Bridge, and the annual revenue now derived by the owners of the bridge, and into the question whether, if all the bridges are not to be made free, it is not desirable for the Crown to redeem Hampton Court Bridge, and make it free, so soon as the price of redemption, with interest, has been derived from the toll."

Your petitioners, therefore, most respectfully approach your Honourable House, feeling that the grievance inflicted on their neighbourhood, and more particularly between the Royal Palace of Hampton Court and the railway station at East Moulsey, is one that should be removed, and they earnestly implore your Honourable House to refer this petition to the Committee appointed by your Honours on the 24th of February last, and that such Committee may be empowered and directed to inquire and report to your Honourable House in particular as to the allegations contained in this petition, and the relief sought as to Hampton Court Bridge, and that you will take such measures to that end as may seem to your Honourable House to be consistent with justice, and expedient in the matter.

And your petitioners, as in duty bound, will ever pray, &c.

Charles Woodward, B.C.L.,
Curate of East Moulsey.
George Lynn, M.A.,
Incumbent of Hampton Wick.
F. J. Kent,
Castle House, Hampton.

TO the Right Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

The humble Petition of the undersigned Freeholders, Copyholders, Bondholders, and Inhabitants of the Towns of Staines, in the County of Middlesex, and Egham, in the County of Surrey,

Showeth,

That during the last century the towns of Staines and Egham have largely contributed by tolls towards the erection and support of no less than five bridges across the River Thames at Staines, within the jurisdiction of the City of London, connecting the counties of Middlesex and Surrey.

That the tolls of such several bridges, except the present, were moderate, and the inhabitants of the towns of Staines and Egham were exempt from any toll on passing the bridge on horseback, whereas by the Act for building the present bridge the tolls are doubled on carriages, and the exemption to the inhabitants taken away, and the two towns rendered liable to the City tax on coals.

That the expense of building the former bridges, and the charges remaining thereon, were nearly all discharged, one or two small annuities only remaining; but the last bridge having been considered unsafe the present bridge was erected and opened in the year 1832, which, with approaches, cost a sum of upwards of 80,000*l.*, raised upon the security of the tolls (producing 4,000*l.* per annum), upon bonds bearing interest at 4*l.* 10*s.* per annum, no part of which said sum has ever been paid off.

That in consequence of the establishment of railroads the very great public traffic formerly passing through the towns of Staines and Egham to the West of England (and to the great benefit of both the towns) has been entirely removed, whereby the bonds and securities on the tolls of such bridge are now at almost a nominal price, and the interest paid on such bonds reduced to a small fraction over 1*l.* per cent.

That a railway is now in construction between Staines and Egham, which will materially lessen the tolls on the said bridge.

That the two important counties of Middlesex and Surrey have little reason to complain of the burden of bridges across the River Thames, there being at this time only one free bridge from the extreme borders of the two counties at Staines to Westminster Bridge.

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That it has been calculated that a very small rate on the two counties of Middlesex and Surrey would be sufficient to throw open all the bridges paying toll between the said counties, and to settle the several securities now charged thereon.

Your petitioners, therefore, most humbly pray that the Committee appointed on the 24th February last, on the subject of the Metropolitan Bridges, may be directed to extend their inquiry, and report as to all the bridges, paying toll, connecting the counties of Middlesex and Surrey, with a view of removing the burden of such tolls.

And your petitioners, as in duty bound, shall ever pray, &c.

Robert Godell, Vicar.
Thomas Ashby, Banker.
Frederick Ashby, Banker.

TO the Right Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

The humble Petition of the Inhabitants of Putney, at a large Public Meeting assembled the 4th day of May 1854,

Showeth,

That Putney and Fulham Bridge was erected in the year 1729, at a cost of 23,975*l.*, including 8,000*l.* paid as compensation to the owners of the horse and foot ferries then existing between the said places, Putney and Fulham, and that a toll was placed on such bridge.

That the property of the said bridge was afterwards transferred to 30 subscribers of 1,000*l.* each.

That the said bridge is dangerous to life and obstructive to navigation, and has been repeatedly condemned by the conservators of the Thames, and the tolls thereof are excessive, being sixpence for a carriage and one horse, and so in proportion for every additional horse, and one shilling and sixpence for a team of four horses, and the other carriage tolls are of a like excessive nature.

That at the said meeting it was unanimously resolved, "That it is very desirable that all obstructions to easy and cheap communication between the populous districts upon both sides of the Thames in the neighbourhood of London should, so far as practicable, be removed, and that all reasonable facilities for free intercourse and the encouragement of trade between the inhabitants of those districts should be afforded."

"That the tolls leviable upon Putney Bridge are very heavy, and present a great impediment to communication between a large portion of the county of Surrey and London, as well as between the districts immediately adjacent to Putney Bridge, and the liability to pay such tolls upon crossing Putney Bridge tends to divert traffic and trade from the parishes of Fulham and Putney into other channels, whereby great injury is occasioned to the inhabitants of those parishes, and the prosperity of those parishes materially affected and the value of property materially diminished."

And "that such toll is demanded upon every occasion of crossing and recrossing such bridge, and on Sundays the foot toll is double, to the great inconvenience of the public."

And "that a Petition to your Honourable House be presented, praying that the Committee appointed upon the motion of Mr. Oliveira, of February last, on the subject of the Metropolitan Bridges, be directed to extend their inquiry, and report as to all the toll-paying bridges connecting the counties of Middlesex and Surrey, and particularly as to Putney and Fulham Bridges."

Your petitioners, therefore, humbly pray your Honourable House will be pleased to adopt such measures for the abolition of such tolls, and if possible the removal of the present and the erection of a new and more convenient bridge, as shall appear to your Honourable House to be most beneficial to the public at large, consistently with a due regard to the vested interests of the proprietors of the present bridge.

Alfred E. Dryden,
As Chairman, on behalf of the said Meeting.

TO the Right Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

The humble Petition of the undersigned Freeholders and Inhabitants of East Moulsey, in the County of Surrey, and of the Neighbourhood,

Showeth,

That by virtue of an Act of Parliament of the 23d year of the reign of King George the Second, the toll on Hampton Court Bridge is redeemable by the Crown on payment of the original cost of the erection of such bridge.

That at a public meeting of freeholders and inhabitants of East Moulsey aforesaid, and of the neigbbourhood, held on the 3d of June 1854, it was unanimously resolved:

First,

First, "That the restriction on the free intercourse necessary to the welfare of society, and to the enjoyment of the residents of Hampton Court Palace, and to the free competition of trade in the neighbourhood, arising from the toll on Hampton Court Bridge, is a tax of a most objectionable nature, which falls chiefly on the locality, and in a large proportion on the poor, and that the free passage across the Thames at all convenient places should be provided by the public at large, or by the counties adjacent, or from some broader basis than by toll.

Secondly, "That the bridge itself is in a wretched condition, and also the approaches, and the obstruction arising from the toll-gate leads to considerable danger and many accidents; that the toll is much heavier than at Kingston Bridge and many other bridges on the Thames, and that, regarding the difference in the value of money since the reign of King George the Second, and the large increase of traffic, the present toll will probably be found to pay from 20 to 30 per cent. per annum, or more, on the amount for which redemption may be obtained; and that by exercise of the above mentioned power, reserved for such purpose by the Legislature, an accumulation would arise in a few years, which from the toll itself would discharge and satisfy the principal and three per cent. interest."

Thirdly. "That inasmuch as Hampton Court is within the metropolitan district, the inquiries of the Committee of the House of Commons, appointed on the motion of Mr. Oliveira, the 24th of February last, upon the subject of the Metropolitan Bridges, should embrace Hampton Court Bridge; but to prevent all doubt on the subject, that a petition be presented to the House of Commons praying that such Committee be directed to inquire and report upon the expediency of throwing open all the bridges on the Thames connecting Middlesex and Surrey, and also as to the original cost of Hampton Court Bridge, and the annual revenue now derived by the owners of the bridge, and into the question whether, if all the bridges are not to be made free, it is not desirable for the Crown to redeem Hampton Court Bridge, and make it free, so soon as the price of redemption, with interest, has been derived from the toll."

Your petitioners, therefore, most respectfully approach your Honourable House, feeling that the grievance inflicted on their neighbourhood, and more particularly between the Royal Palace of Hampton Court and the railway station at East Moulsey, is one that should be removed; and they earnestly implore your Honourable House to refer this petition to the Committee appointed by your Honors on the 24th of February last, and that such Committee may be empowered and directed to inquire and report to your Honourable House in particular as to the allegations contained in this petition, and the relief sought as to Hampton Court Bridge, and that you will take such measures to that end as may seem to your Honourable House to be consistent with justice and expedient in the matter.

And your petitioners, as in duty bound, will ever pray, &c.

Charles Woodward, B.C.L.,
Curate of East Moulsey.
George Lynn, M.A.,
Incumbent of Hampton, Wick.
J. Kent,
Castle House, Hampton.
&c. &. &c.

TO the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

The humble Petition of the Inhabitants of Fulham, in Public Meeting assembled, the 20th of April 1854,

Showeth,

That in the year 1729 a bridge was erected between Putney and Fulham at a cost of 23,975*l.*, including 8,000*l.* paid as an indemnity for the horse and foot ferries then existing between the said places, Putney and Fulham, and that a toll was placed on such bridge.

That the property of the said bridge was afterwards transferred to 30 subscribers of 1,000*l.* each.

That at a public meeting (numerously attended) of freeholders and inhabitants of Fulham, held at Walham Green, in the said parish of Fulham, on the 20th April 1854, it was unanimously resolved,

"That the said bridge is dangerous to navigation, and has been repeatedly condemned by the conservators of the Thames.

"That the restriction on the free intercourse necessary to the welfare of society and to the free competition of trade, arising from the toll on Putney Bridge, is a tax of a most objectionable nature, which falls chiefly on the locality, and in a very large proportion on the poor; and that the passage across the Thames, at all convenient points for the use of the public, should be provided for by the public at large, or by the counties connected by the bridges, or from some broader basis than by fixing tolls upon any particular neighbourhood;" and

That a petition to your Honourable House be presented, praying that the Committee, appointed upon the motion of Mr. Oliveira on the 24th of February last, on the subject of the Metropolitan Bridges, be directed to extend their inquiry, and report as to all the toll-paying bridges connecting the counties of Middlesex and Surrey."

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Your petitioners, therefore, respectfully approach your Honourable House, feeling that the grievance inflicted on the neighbourhood of the bridges, and more particularly between Putney and Fulham, is one that should be removed, and they earnestly implore your Honourable House to take such measures (with due regard to the vested interest of the proprietors of the said bridge) as may seem likely to attain so desirable an end.

And your petitioners, as in duty bound, will ever pray, &c.

Ranelagh, Chairman of the Meeting.

Appendix, No. 11.

PAPER delivered in by Mr. *John Guy*, 22 June 1854.

Appendix, No. 11.

EXTRACT from an Act for building a Bridge cross the River Thames, from Hampton Court, in the County of Middlesex, to East Moulsey, in the County of Surrey. 23d George 2d, 1749.

"Provided always, and be it further enacted by the authority aforesaid, that if at the expiration of the term of years (twenty-six) for and during which the said James Clarke is by virtue of the said letters patent, bearing date the 12th day of March, in the 29th year of the reign of King Charles the Second, intitled to the possession of the manor of East Moulsey, with the appurtenances, and of that passage of water upon the River Thames called Hampton Court Ferry, or at any time thereafter, his Majesty, his heirs, or successors, shall cause to be advanced and paid unto the said James Clarke, his heirs, or assigns, all such sum and sums of money, as he and they shall have advanced, paid, and expended, for and upon account of the procuring and passing of this Act, and for and upon account of erecting, maintaining, and supporting the said bridge, and preserving and improving the said navigation, and all such sum and sums of money as he and they shall have advanced, paid, and expended, for and upon account of the purchase of any lands, tenements, or hereditaments, as aforesaid, and also for and on account of doing and performing all such other matters and things as are hereinbefore authorized to be done and performed; and shall also cause to be discharged and satisfied all such demands, contracts, and debts (together with all interest due thereon) as shall be standing out, and remaining unsatisfied, for and upon account of erecting and maintaining the said bridge, and of doing and performing the several other matters and things aforesaid; then, and in such case, all the right, title, interest, and property of the said James Clarke, his heirs and assigns, of, in, and to the said bridge, and the tolls and duties hereby granted to him and them, for pontage or passage over the same, shall cease and determine; and that from thenceforth the property of the said bridge shall be, and is hereby vested in his Majesty, his heirs and successors for ever; anything herein contained to the contrary notwithstanding."

Appendix, No. 12.

Appendix, No. 12.

PAPER furnished by Mr. *S. S. Tayler*.

STATEMENT of the INCOME and PROPERTY of BATTERSEA BRIDGE.

	£.	s.	d.	£.	s.	d.
1842:						
Gross amount of tolls for the year - - - -	4,445	11	1			
Expenditure for ditto - - - - - -	1,160	6	5			
Net produce of tolls for 1842 - - - -				3,285	4	8
FUNDED PROPERTY:						
£. 2,000 new 3½ per cents.						
£. 8,234. 3 *s.* 6 *d.* 3 per cent. consols.						
£. 1,000 Exchequer Bill.						
Producing per annum - - - - -				317	–	–
LANDED PROPERTY:						
About six acres of land adjoining the bridge on the Surrey side, the greater part of which is covered with buildings, chiefly manufacturing premises, and the Swan Tavern, let for terms which will expire in the year 1881, at annual ground rents amounting to - - - -				90	–	–
TOTAL INCOME - - -				3,692	4	8

During

During the ensuing year the executors of a deceased proprietor had to dispose of a share, or one-13th of the interest in the tolls and other properties connected with Battersea Bridge; this was sold by public auction for 6,600 *l.*, which is the latest sale of a share. (This sale took place in the month of August 1843, though the conveyance was not executed till some time afterwards, which led to the year 1844 being erroneously mentioned in the evidence as the date of the sale.) Appendix, No. 12.

1853:	£.	*s.*	*d.*
Gross amount of tolls for the year	6,071	10	7
Expenditure for ditto	843	10	7
Net produce of tolls for 1853 £.	5,228	–	–

A sum of 345 *l.* 10 *s.* 6 *d.* was expended this year in building a new house for the check clerk, and of 50 *l.* last year, which may be considered as an addition to invested capital, and is not included in the above item for expenditure.

The funded and landed properties are but little altered. The income arising from them remains at nearly the same amount as in 1842.

Stephen S. Tayler.

Battersea, 13 July 1854.

Appendix, No. 13.

HUNGERFORD BRIDGE.

Appendix, No. 13.

[Explanation of Plans delivered in by *P. P. Baly*, Esq.—Evidence, 21 June 1854, p. 102.]

Drawing No. 1, is a general plan and section of the bridge, showing the proposed approaches and the level of the same with reference to existing thoroughfares, and the height of the bridge above Trinity Standard high-water mark. *Vide* Plan (VIII.) at the end.

North Approach.—Upon reference to this drawing, it will be seen that the north approach commences at the Strand (opposite Duncannon-street and Adelaide-street, which skirt the east and south sides of St. Martin's Churchyard), and is carried along Hungerford-street, which it is proposed to widen to 60 feet by throwing back the shops, for which facilities exist. This approach then crosses the present open space in the market, and passing through the centre of the hall of the market, will require the removal of a few stalls and a large room which has been erected within the last few years for public exhibitions, but at present is not tenanted. It then crosses over the erection in the lower area of the market, which is at present used as a singing room or saloon in connexion with the Swan Tavern, and then reaches the bridge.

The Bridge.— It is proposed to make the bridge 48 feet wide, as shown upon Drawing No. 2, the carriageway being in the centre, with a footway on either side of it. The sectional area of the chains will be sufficient to sustain the greatest load which can be placed on the bridge, situated as it is in the middle of the metropolis; and the flooring will be trussed, so as to prevent vibration, by wrought-iron trusses placed on each side of the footways, and running longitudinally along the whole length of the bridge. *Vide* Plan (IX.) at the end.

The Pesth Bridge, built by the late Mr. Tierney Clarke, is a carriage suspension bridge, with a centre span within 10 feet the same as that of the Charing-cross Bridge, and is the only means of communication between the towns of Pesth and Buda, which, together, have a population of upwards of 100,000. The stability of this bridge was most severely tested during the Hungarian Revolution in 1849, both the Hungarian and Austrian armies passing over the bridge with all their artillery and baggage trains, and this occurred before the bridge was finished or the roadway trussed.

The piers of the present bridge can be easily modified above the level of the cutwaters, so as to suit the increased width of the new bridge; additional rollers will have to be placed on the piers, with a similar arrangement to that already existing, and which has been found to answer most efficiently in preserving the equilibrium of the bridge, as was fully tried upon the occasion of His Royal Highness Prince Albert passing under the bridge on his way to the City to open the Coal Exchange, when the bridge was densely crowded with people.

South Approach.—The south approach commences at the river face of the present south abutment, and will also be 60 feet wide; continuing on from the bridge, it will pass over the

Appendix, No. 13.

the Belvidere-road by a bridge, and join the York-road opposite the present offices of the South-Western Railway Company, at a point intermediate between Vine-street and Sutton-street. The line of this approach is now in course of execution by the Company, under Parliamentary powers for forming the same, the capital for which has been subscribed, and is paid up, with the exception only of the last call.

In determining upon the spot where the south approach should join the York-road, it has been selected in reference to the proposed extension of the Waterloo Station of the South-Western Railway to the York-road, to the site coloured pink on Plan No. 4, and also to an eventual communication with the Westminster-road.

Vide Plan (XI.) at the end.

In the event of the line of street from Westminster Bridge to the Town Hall, Southwark, being formed, no difficulty whatever exists in connecting it with the south approach of the bridge, as is shown by the dotted *pink* lines on Drawing No. 4.

Vide Plan (XI.) at the end.

In reference to the inclination of the approaches at the north approach, there is an inclination of 1 in 50 in Hungerford-street, and the remainder of the approach is on a level.

At the south approach the inclination between the bridge and the Belvidere-road is 1 in 70, and from the Belvidere-road to the York-road 1 in 40. The inclination of the south approach to the Waterloo Bridge varies from 1 in 35 to 1 in 39.

Approach from Whitehall.—Should it be thought desirable to make a communication from the north approach to Scotland Yard and Whitehall, it can be made with facility in the direction of the dotted lines shown upon Drawing No. 4. The inclination of this approach would be about 1 in 60.

Vide Plan (XI.) at the end.

The Middlesex approach to the bridge from St. Martin's Church has, however, been selected in preference to an approach in a more westerly direction, on grounds both of public convenience and diminished outlay. Hungerford-street is not only within 100 yards of the Trafalgar-square Post-office, but the two important openings opposite Hungerford-street, and skirting St. Martin's Churchyard, lead direct to the upper part of Trafalgar-square, and *viâ* St. Martin's-lane, to Oxford-street and the north of London, and thus must instantaneously relieve the Strand from a very large portion of the traffic to or from the bridge.

As far as the market is concerned, the only erections to be entirely removed are the two rooms which have been erected in the centre of the market, as above explained (one only of which is at present occupied), and a few stalls, the houses in Hungerford-street being set back as shown, and the residue of the market will remain untouched, but of course applicable for trading and business purposes of a higher character; and thus it is assumed the rental of the Market Company will be increased, and the property generally benefited.

Cost.

The estimated cost of the alteration of the bridge is,—

	£.
For works - - - - - - - - - -	104,000
For approaches - - - - - - - - -	52,000
TOTAL - - - £.	156,000

PLAN (XI.)

[Drawing No. 4.]

HAYMARKET.
ST MARTINS LANE.
ADELAIDE ST.
DUNCANNON ST.
PALL MALL EAST
TRAFALGAR SQUARE.
STRAND.
COCKSPUR ST
CHARING CROSS
WATERLOO PLACE
NORTHUMBERLAND HOUSE.
THAMES.
WATERLOO BRIDGE.
CHARING CROSS BRIDGE.
SCOTLAND YARD.
WHITEHALL PLACE.
WHITEHALL.
ST JAMES'S PARK.
PARLIAMENT STREET.
RIVER
WESTMINSTER BRIDGE.
WESTMINSTER BRIDGE
YORK ROAD.
S.W.R.
WATERLOO STATION.
WATERLOO ROAD.
LOWER MARSH
NEW CUT.
STAMFORD STREET.
PROPOSED NEW STREET TO TOWN HALL SOUTHWARK

Scale
100 50 0 100 200 300 400 500 Feet

J. Basire, Litho

No. 370. Ordered, by The House of Commons, to be Printed, 14th July, 1854.
Henry Hansard, Printer.

PLAN (III.)

METROPOLITAN SUPER-WAY.

(Nº 2.)

SINGLE COLUMN.

DETAILED ELEVATION.

B. P. Wilmo, Del.t

Designed by J. Sym.

Standidge & Co. Litho, 36, Old Jewry

Nº 370. Ordered, by The House of Commons to be printed, 14th July, 1854.

Henry Hansard Printer.

PLAN (IV.)

METROPOLITAN SUPER-WAY.
(No 3)

VIEW OF LINE CROSSING THE THAMES FROM SOUTH EASTERN RAILWAY STATION, TO BLACKWALL, & EASTERN COUNTIES RAILWAY STATION, BELOW LONDON BRIDGE.

B. P. Wilmc Del.

Designed by J. Sym.

Standidge & C° Lithe, 36 Old Jewry

No 370. Ordered, by The House of Commons to be printed, 14th July, 1854.

Henry Hansard, Printer.

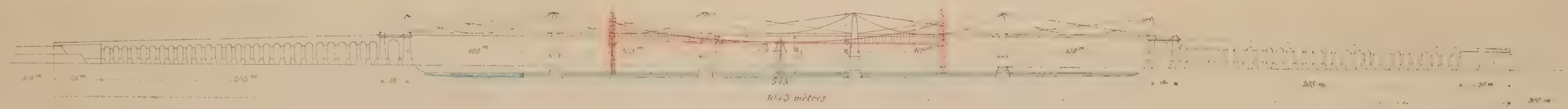
OXFORD STREET
NEW OXFORD STREET
HIGH HOLBORN
HOLBORN HILL
FARRINGDON STREET
NEWGATE STREET
CHEAPSEAL
FLEET STREET
LUDGATE HILL
LUDGATE STR
ST PAULS CHURCH YD
CANNON STREET
STRAND
BRIDGE ST
WEST STRAND
REGENT STREET
REGENTS QUADRANT
PICCADILLY
HAYMARKET
PALL MALL
PALL MALL EAST
TRAFALGAR SQUARE
CHARING CROSS
WHITEHALL
PARLIAMENT STREET
GREAT GEORGE STREET
BIRD CAGE WALK
WESTMINSTER BRIDGE
VICTORIA STREET
CONSTITUTION HILL
GREEN PARK
THE MALL
SAINT JAMES'S PARK
PALACE GARDENS
HYDE PARK CORNER
PARK LANE
GROSVENOR SQUARE
GROSVENOR STREET
NEW BOND STREET
BERKELEY SQUARE
MOUNT STREET
BRUTON STREET
CRAVEN STREET
CHARLES STREET
QUEEN ANN STREET
MORTIMER STREET
CAVENDISH SQUARE
PORTMAN SQUARE
WIGMORE STR
HENRIETTA STREET
EDWARD'S STREET
CASTLE STREET EAST
MARKET ROW
CHANDOS STREET
LANCHAM PLACE
GREAT PORTLAND STREET
GREAT MARLBOROUGH ST
BROAD STREET
BROADWICK STREET
BERNERS STREET
NEWMAN STREET
PERCY STREET
TOTTENHAM COURT ROAD
CHARLOTTE ST
GREAT RUSSELL STREET
BLOOMSBURY
HART STREET
HIGH STREET
BROAD STREET
SOHO SQUARE
CARLISLE ST
DEAN STREET
WARDOUR STREET
OLD COMPTON ST
CRANBOURN STREET
LEICESTER SQUARE
ST MARTINS LANE
CHARING CROSS
COVENTRY STREET
KING STREET
COVENT GARDEN
MARKET
TAVISTOCK ST
HENRIETTA ST
BEDFORD ST
MAIDEN LANE
KINGS WILLIAM ST
ADELAIDE ST
JOHN ST
ROBERT ST
ADAM STREET
GEORGE STREET
BLANDFORD ST
SOUTH STREET
CHARLES ST
THAYER STREET
BENTINCK ST
MINDS ST
WIGMORE PLACE
WELLS STREET
CHARLES STREET
BERNERS STREET
NEWMAN STREET
PERCY STR
TOTTENHAM COURT ROAD
CHARLOTTE ST
GREAT RUSSELL STREET
BLOOMSBURY
HART STREET
HIGH STREET
BROAD STREET
SOHO SQUARE
CARLISLE ST
DEAN STREET
WARDOUR STREET
OLD COMPTON ST
CRANBOURN STREET
LEICESTER SQUARE
ST MARTINS LANE
CHARING CROSS
COVENTRY STREET
KING STREET
COVENT GARDEN
MARKET
TAVISTOCK ST
HENRIETTA ST
BEDFORD ST
MAIDEN LANE
KINGS WILLIAM ST
ADELAIDE ST
JOHN ST
ROBERT ST
ADAM STREET
GEORGE STREET
BLANDFORD ST
SOUTH STREET
CHARLES ST
THAYER STREET
BENTINCK ST
MINDS ST
WIGMORE PLACE
WELLS STREET
CHARLES STREET
QUEEN ANN STREET
MORTIMER STREET
CAVENDISH SQUARE
PORTMAN SQUARE
WIGMORE STR
HENRIETTA STREET
EDWARD'S STREET
CASTLE STREET EAST
MARKET ROW
CHANDOS STREET
LANCHAM PLACE
GREAT PORTLAND STREET
GREAT MARLBOROUGH ST
BROAD STREET
BROADWICK STREET
BERNERS STREET
NEWMAN STREET
PERCY STREET

PLANS.

[Delivered in by Thomas Page, Esq.]

PLAN Nº 1.

PLAN Nº 2



& Son, Lith^rs to the Queen.

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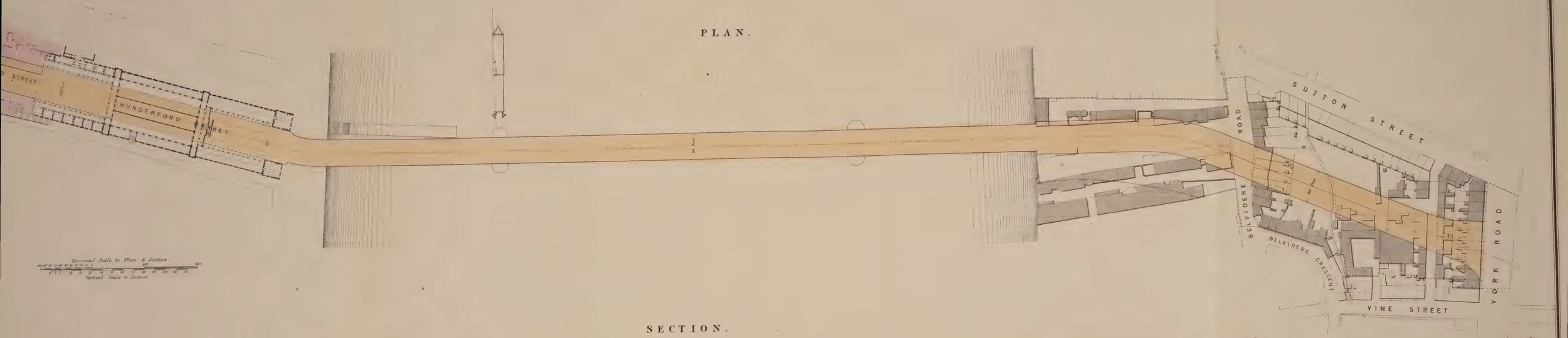
PLAN(VIII.)

[Drawing N°1.]

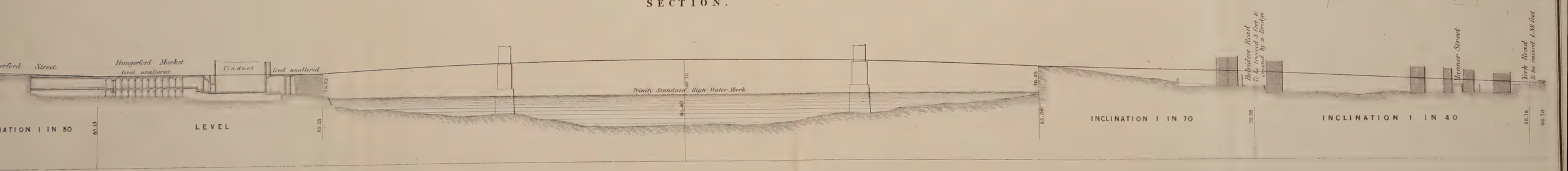
CHARING CROSS BRIDGE.

GENERAL PLAN & SECTION OF BRIDGE SHEWING THE PROPOSED APPROACHES.

PLAN.



SECTION.



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PLAN (IX.)

Drawing No. 2.

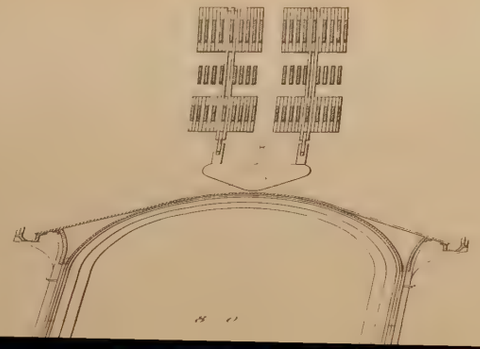
CHARING CROSS BRIDGE.

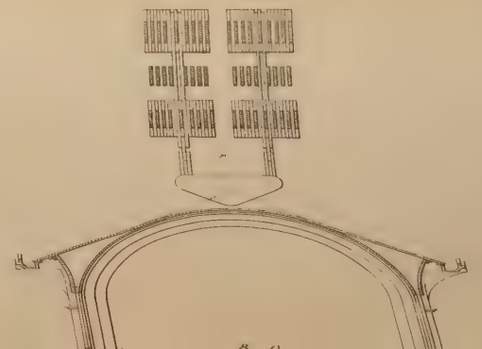
Drawing of Flooring,

Showing the Increased width when altered.

Transverse Section.

40. 0

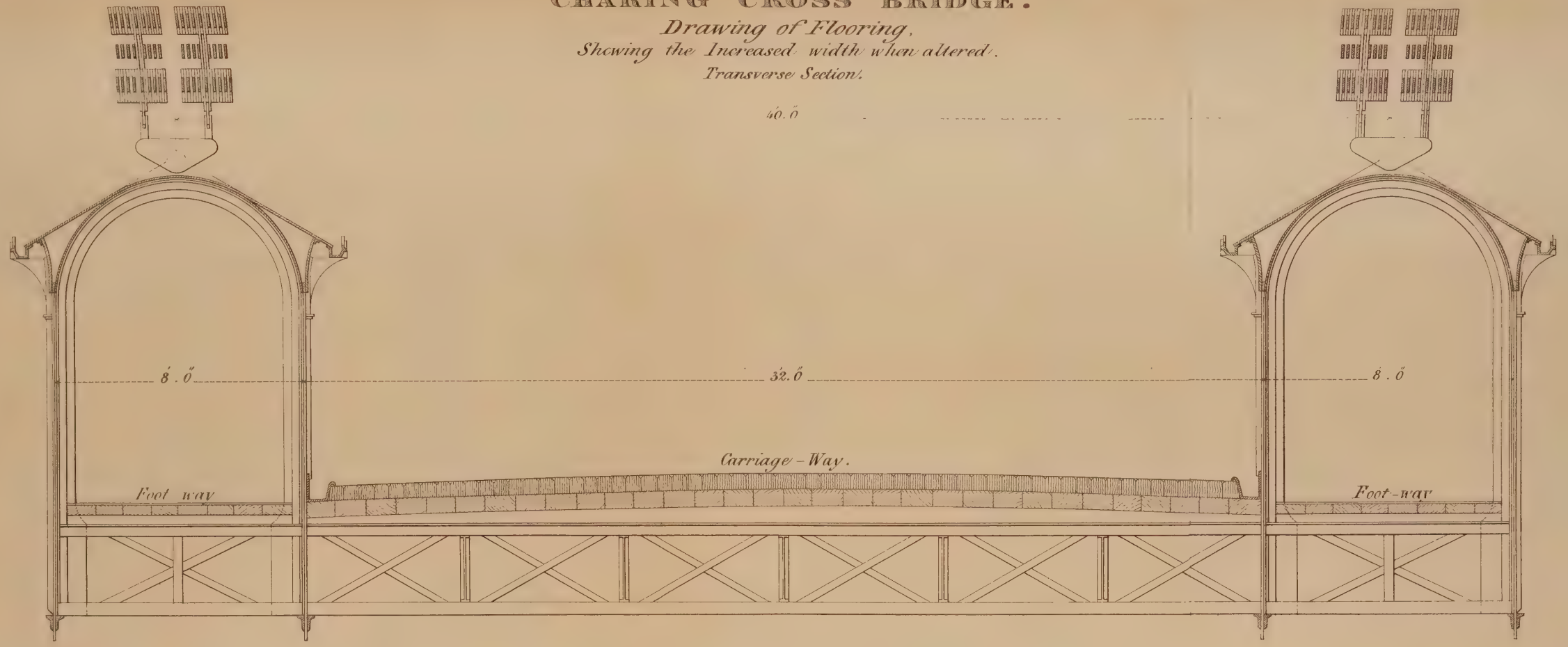


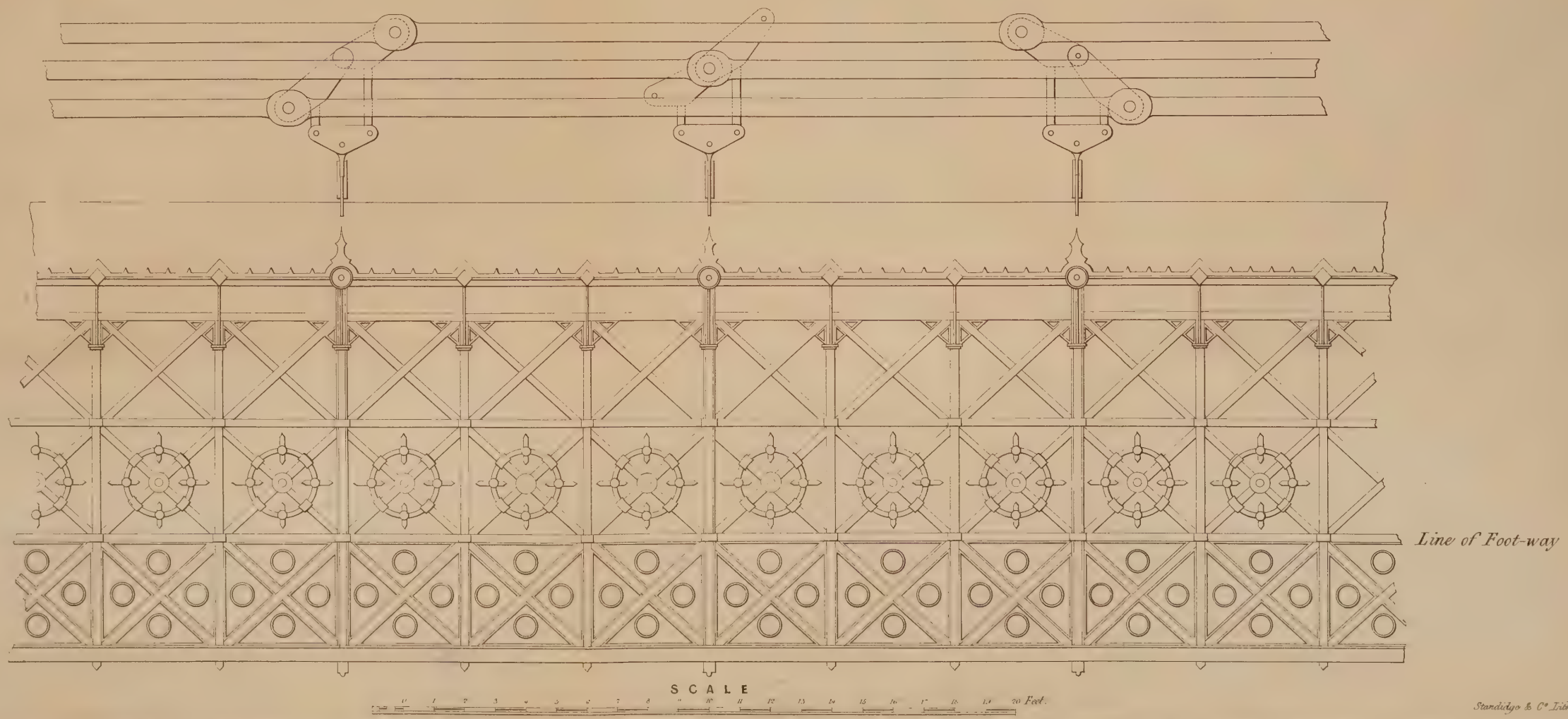


PLAN (IX.)
Drawing N°3.

CHARING CROSS BRIDGE.

Drawing of Flooring,
Showing the Increased width when altered.
Transverse Section.





SCALE
1' 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Feet.

Standidge & Co° Litho Old Jewry.

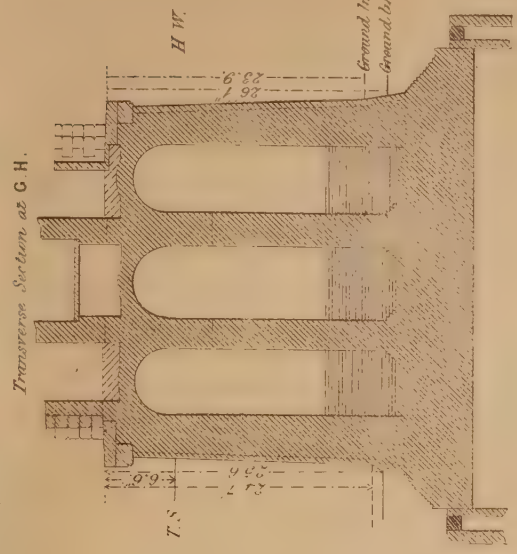
N° 370
Ordered by The House of Commons to be printed, 14th July 1854.

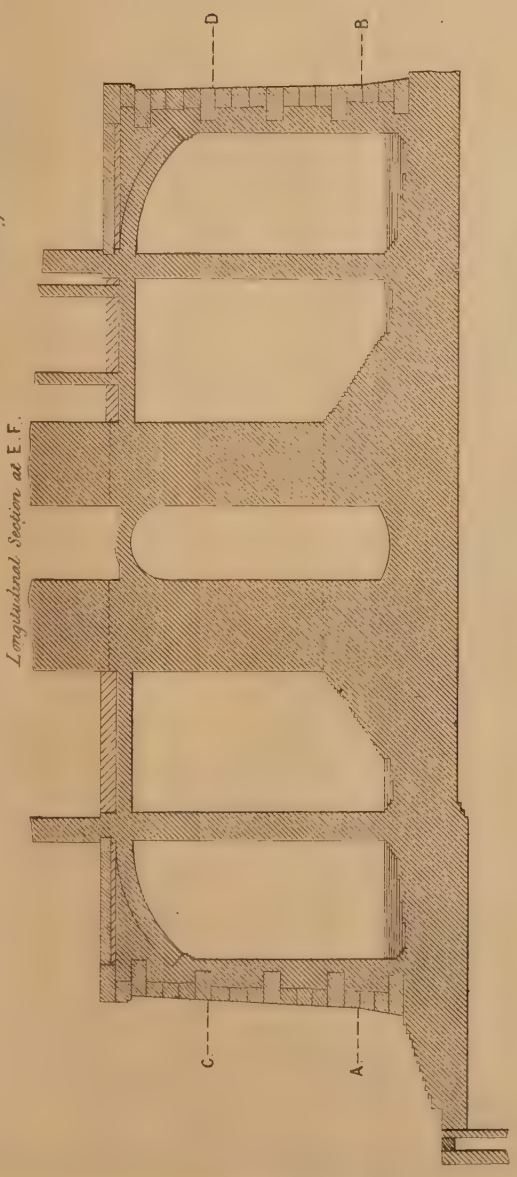
PLAN (X.)

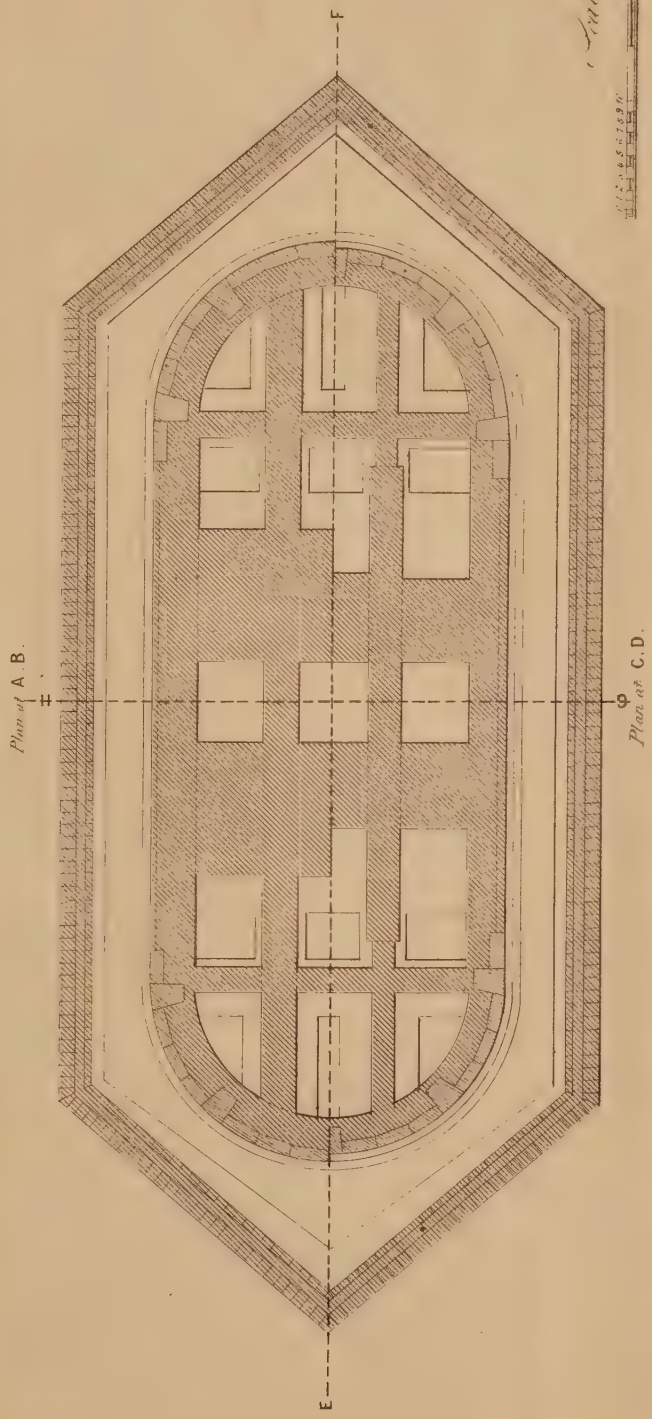
[Drawing No. 3.]

CHARING CROSS BRIDGE.

Drawing of Cutwater to Piers as now constructed.







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PLAN (XI.)
[Drawing No. 4.]

HAYMARKET.
PALL MALL EAST
TRAFALGAR SQUARE.
COCKSPUR ST
CHARING CROSS.
WATERLOO PLACE.
ST MARTINS LANE.
DUNCANNON ST.
ADELAIDE ST
STRAND.
NORTHUMBERLAND HOUSE.
SCOTLAND YARD.
WHITEHALL PLACE.
WHITEHALL.
PARLIAMENT STREET
ST JAMES'S PARK.
THAMES
RIVER
CHARING CROSS BRIDGE
WATERLOO BRIDGE
WESTMINSTER BRIDGE
WESTMINSTER BRIDGE ROAD.
YORK ROAD.
S.W.R.
WATERLOO STATION.
LOWER MARSH.
WATERLOO ROAD.
NEW CUT.
STAMFORD STREET.
PROPOSED NEW STREET TO TOWN HALL SOUTHWARK

Scale
100 50 0 100 200 300 400 Feet

J Basire, Lithe

№ 370. Ordered, by The House of Commons, to be Printed, 14th July, 1854.
Henry Hansard, Printer.

I N D E X.

[*N.B.*—In this Index the *Figures* following the Names of the Witnesses refer to the Questions of the Evidence; those following *App. p.* to the paging of the Appendix; and the *Numerals* following *Rep. p.* to the paging of the Report.]

A.

ACTS of Parliament. See *Battersea Bridge. Bills. Crown, The. Hampton Court Bridge. Kew Bridge. Kingston Bridge. London Bridge.*

Additional Bridges. The construction of another bridge would not effect much good without the proposed street were made through the Borough, *Laing* 56——Sites upon which it would be expedient to erect additional bridges, *Rep. p.* iv.

Andrews, George William. (Analysis of his Evidence.)—Heavy toll taken at Moulsey Bridge; objection of the inhabitants to it, 1344-1352——There is a general willingness to pay a rate to buy up the bridge, 1353-1358——Popular feeling as to the desirability of getting rid of the toll, 1362-1370——Weekly sum paid in tolls by witness, 1371——Present condition of Moulsey Bridge, 1372.

Annuities. Periods at which the annuities chargeable on the Bridge House Estates will expire, *Brand* 214-219.

Approaches. It would be useless to throw open the Southwark Bridge unless the communication with the railway stations were improved, *Jones* 111, 112. 131-133——It would be necessary, in the event of the plan of widening London Bridge being adopted, to widen the approaches also, *Evans* 745-751——Manner in which the approaches of the bridge from St. Paul's might be adapted to the existing levels, *Tite* 1050-1056.

See also *Southwark Bridge. Thames Tunnel. Tower, The.*

Area. See *Taxation.*

Ashby, Frederick. (Analysis of his Evidence.)—Injury done to the trade of Staines by the existence of the toll on the bridge, 1492, 1493——There is a general willingness on the part of the inhabitants of Staines to share in a tax for abolishing tolls on all the bridges, 1494-1498.

Ashby, Thomas. (Analysis of his Evidence.)—Reasons for which the people of Staines are anxious for the bridge to be made free, 1443-1448. 1467-1481——Particulars as to the funds with which the bridge was built, and as to the revenue, 1449-1459. 1465, 1466. 1482. 1489-1491——The bridge is now in the possession of a mortgagee, 1460-1464——There is no toll on foot passengers, 1483-1485——Staines Bridge has been rebuilt five times within witness's recollection, 1486-1488.

B.

Baalham, Robert. (Analysis of his Evidence.)—Is resident superintendent or clerk of Battersea Bridge, 1766——The average annual income of the bridge toll for the last three years has been 6,511 *l.* 0 *s.* 3 *d.*; and the expenses, 750 *l.*, 1767-1770——Increase of late years in the amount of the revenue, 1771-1774——Satisfactory condition of the bridge, 1775, 1776——There is a desire on the part of the inhabitants in the neighbourhood for the bridge to be thrown open, 1777-1779.

Baly, Price Richard. (Analysis of his Evidence.)—Was resident engineer at the Charing Cross Bridge, 671, 672——It is quite possible to adapt a carriage road to the bridge, 673-675. 678, 679——Estimated cost of the improvements, 674. 688, 689——Width proposed

Report, 1854—*continued.*

Baly, Price Richard. (Analysis of his Evidence)—*continued.*

proposed to be given to the bridge, 676, 677——Present span of Charing Cross Bridge 681——Alterations proposed to be made in the traffic way of the bridge, 682-685——It will be more economical to enlarge the present bridge than to build another, 686, 687——Extent to which it is proposed to alter Hungerford Market, 690-695——The span of Charing Cross Bridge would have to be reduced to enable it to bear a railway, 696-698——Relative strength of the bridge, 699-703——Description of its foundation, 701-712.

[Second Examination.]—Witness hands in documents to illustrate the proposed alteration of Charing Cross Bridge into a carriage bridge, 1216, 1217.

Bateson, Samuel. (Analysis of his Evidence.)—Consideration given by witness to Blackfriars Bridge, 483-485——Description of bridge which witness proposes to adapt to Blackfriars Bridge, 486. 488-499——The existing bridge has been reported unsafe, and will require to be partly pulled down, 488. 502-505——Witness proposes to remove the three defective arches and throw ironwork across, 499-501——Explanation of witness's plan, 506-509.

BATTERSEA BRIDGE:

1. *Generally.*
2. *Shares.*
3. *Tolls and Revenue.*

1. *Generally:*

Battersea Bridge was built under an Act of Parliament of 1768; it is in a good state of repair, *S. S. Tayler* 1691-1697——It is fully adequate to the traffic, *ib.* 1698-1701——There are no documents which show the original cost of the bridge, *Janson* 1714-1718——Circumstances under which it was built, *ib.* 1722-1727——Manner in which the business is conducted at the meetings of the proprietors, *ib.* 1745-1751——The Act contains no clause as to the purchase of the bridge for the benefit of the public, *ib.* 1755-1758——Satisfactory condition of the bridge, *Baalham* 1775, 1776.

2. *Shares:*

There are now 13 shareholders, and they divide between 400*l.* and 500*l.* each a year, *Janson* 1719. 1721. 1739——Sum which the shares fetched on the last occasion of a sale, *ib.* 1728-1732——Manner in which the shares first arose, *ib.* 1733-1735——Particulars as to the last sale of a share; the property comprehended in a share, and the nature of the title to it, *ib.* 1736-1738. 1740-1744——Manner in which the shares are transferred, *ib.* 1759, 1760.

3. *Tolls and Revenue:*

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Hammersmith Bridge. Financial history of the bridge, *Boileau* 1576–1579. 1586. 1588–1592. 1621——The bridge itself cost 50,000 *l.*, but the purchase of approaches and other expenses brought the original expenditure up to 85,000 *l.*, *ib.* 1578, 1579——The gross revenue for last year was 3,700 *l.*, and the expense, 1,500 *l.*, *ib.* 1581–1586. 1618——There is no debt, *ib.* 1587——Rate at which the income from tolls is annually increasing, *ib.* 1593——Amount of the dividends, *ib.* 1594——Tolls levied on Hammersmith Bridge, *ib.* 1601, 1602——The bridge is in a thoroughly sound state, *ib.* 1603. 1617——Table showing the annual income for every year since the bridge was built, *ib.* 1619–1621.

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Hammersmith, Inhabitants of. The Hammersmith people have no particular grounds for desiring the abolition of the toll; it does not practically prevent their tradespeople from serving customers on the Surrey side of the river, *Boileau* 1606–1611.

Hampton. See *Petitions. Taxation.*

HAMPTON COURT BRIDGE:

1. *Generally.*
2. *Value and Revenue.*

1. *Generally:*

The inhabitants on both sides of the river are anxious for the bridge to be opened, *Guy* 1244——The bridge is considered to be in a very unsound and dangerous state, *ib.* 1235, 1236. 1245, 1246——Act under which Hampton Court Bridge was built, *Jackson* 1527–1531——Extent to which the property in the neighbourhood of Hampton Court is injuriously affected by the toll, *ib.* 1534——Manner in which the inhabitants are personally inconvenienced by the toll, *ib.* 1536. 1542–1544——Dilapidated state of the bridge, *ib.* 1537. 1545, 1546——The toll falls with peculiar hardship upon the poorer classes and also upon all workpeople, *Woodward* 1807——It diverts money from charitable and educational uses, as the money is spent in toll which would otherwise be applied to those purposes by persons who are obliged to cross the bridge to go to church, *ib.* 1807——It acts also as a tax upon all food brought over the bridge, *ib.* 1807——Extract from the Act for building this bridge, *App. p.* 170.

2. *Value and Revenue:*

Price given for the bridge by the present proprietor, *Guy* 1231, 1232——Very exorbitant tolls are levied at this bridge, 1225–1229——The amount derived from the tolls of the Hampton Court Bridge at the present time is estimated at 1,500 *l.* per annum, *ib.* 1241–1243——Sum for which Hampton Court Bridge might be purchased, *Gould* 1331–1337; *Jackson* 1538–1541.

See also *Kingston Bridge. Railway. Tolls.*

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Hare, Evan. (Analysis of his Evidence.)—Is the solicitor of Putney parish, 1373——Witness is not prepared with any information as to Putney Bridge, 1374-1376——Henry Chasemore is secretary to the company, 1377, 1378——There is no engineer, 1379–1381——The inhabitants of Putney are desirous for the removal of the toll, 1382–1385.

[Second Examination.]—Since witness's last examination the inhabitants of Putney have held a meeting, and come to a resolution that the most equitable way of raising money for the redemption of the bridges would be by a county rate and not the coal tax, with an exception, however, as to the latter tax, 1622–1626——The market price of the bridge is about 70,000 *l.*; 1627, 1628.

Horne, Benjamin Worthy. (Analysis of his Evidence.)—Messrs. Chaplin & Horne use London Bridge to a very large degree, and are likely to do so more at a future period, 1196, 1197——General direction taken by the traffic between the railway stations on either side of the water; it would be greatly facilitated by throwing open Southwark Bridge, 1198, 1199——The advantages of a bridge lower down the river than Southwark Bridge would not be so great as opening that bridge, 1200–1211——St. Paul's would not be a good position for a bridge, 1212——Messrs. Chaplin & Horne offered to subscribe a year's revenue if the Southwark Bridge Company would throw open their bridge for that period, by way of experiment, 1213——The approaches on the Surrey side of the bridge require some improvement, 1214, 1215.

Horne. See *Chaplin & Horne, Messrs.*

Horseferry. Estimate of the cost of a bridge at the Horseferry, *Maclean* 450——Objections to Mr. Maclean's plan for a bridge at the Horseferry, *Page* 518——Expense of making a bridge at the Horseferry, *ib.* 527. 560. 567——The erection of new bridges at Horseferry and the City is to be preferred to buying Vauxhall and Southwark Bridges, *ib.* 541-547. 568–570.——*See* also *Charing Cross.*

Hungerford Market. Extent to which the improvements in Charing Cross Bridge will affect Hungerford Market, *Few* 631-633——Manner in which it is proposed to alter the market, *Baly* 690–695.

J.

Jackson, Francis. (Analysis of his Evidence.)—Act under which Hampton Court Bridge was built, 1527–1531——Witness is of opinion that the inhabitants of his district would be willing to contribute their quota of taxation towards opening all the metropolitan bridges, 1532, 1533——Extent to which the property in the neighbourhood of Hampton Court Bridge is injuriously affected by the toll, 1534——Manner in which the inhabitants are personally inconvenienced by the toll, 1536. 1542–1544——Dilapidated state of Hampton Court Bridge, 1537. 1545, 1546——Sum at which the bridge might be redeemed, 1538–1541——Inconvenience arising from the toll at Kingston Bridge, 1542, 1543.

Janson, Frederick Halsey. (Analysis of his Evidence.)—Is solicitor to Battersea Bridge, 1713——There are no documents which show the original cost of Battersea Bridge, 1714–1718——There are now thirteen shareholders, and they divide between 400 *l.* and 500 *l.* each, 1719. 1721. 1739——Circumstances under which Battersea Bridge was built, 1722–1727——Sum which the shares fetched on the last occasion of a sale, 1728–1732.

Manner in which the shares first arose, 1733–1735——Particulars as to the last sale of a share, the property comprehended in a share, and the nature of the title to it, 1736–1738. 1740–1744——Manner in which the business is conducted at the meetings of the proprietors, 1745–1751——There is a fixed scale of tolls, 1752, 1753——The Act contains no clause as to the purchase of the bridge for the benefit of the public, 1755–1758.

Manner in which the shares are transferred, 1759, 1760—— The Act of Parliament enabled Lord Spencer, the owner of the ferry at Battersea, to build the bridge, and in 1771 he conveyed it to fifteen proprietors, who subsequently reduced their number to thirteen, 1761–1765.

Jones, Richard Lambert. (Analysis of his Evidence.)—Witness was chairman to the committee that built London Bridge, 95–98——The beauty of the bridge would be spoilt by widening the surface, 99, 152, 153——The traffic over the bridge would be relieved by throwing open Southwark and Waterloo Bridges; witness once suggested the former being opened for a year by way of experiment, 100–108. 188——The erection of steamboat piers on the Surrey side of London Bridge would be an infringement of the Act, 109, 110——It would be useless to threw open Southwark Bridge unless the communication with the railway station were improved, 111, 112. 131–133.

Suggestion for a new bridge with approaches starting from St. Paul's, 113–125——The inhabitants of the city are not likely to approve of any direct tax for facilitating the traffic

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Jones, Richard James. (Analysis of his Evidence)—*continued.*

traffic over the bridges, 126-128. 134, 135. 154. 155——Cost of building London Bridge, 129, 130——Erroneous impressions prevailing as to the coal tax; various alterations made in its amount, 136-138——The coal tax is the only source from which the expense of the proposed improvements should be taken, 139-142. 177-180.

Ten or twelve miles is the area within which a tax for the proposed improvements ought to be levied, 143-151——Expediency as to converting Charing Cross Bridge into a bridge for carriages, 156-160——Decrease in the value of Waterloo Bridge; probable disinclination of the inhabitants of the metropolis to submit to a rate for its purchase, 161-173——Desirableness of having a direct street communicating with the Surrey ends of the bridges, 174, 175——Objection to any tax for building a new bridge, 176——Remarks as to Blackfriars and Vauxhall Bridges, 181-187.

Kew. See *Taxation.*

Kew Bridge. Kew Bridge is the property of a Mr. Robinson, *Phillips* 1408, 1409——Present condition of the bridge, *Mason* 1780, 1781——Amount of the receipts of the bridge, *ib.* 1781. 1783. 1785——Amount of the expenses, *ib.* 1782. 1784——Circumstances under which the bridge was purchased by the present proprietor, *ib.* 1785-1789——There is no clause in the Bridge Act to enable the Government to buy it, *ib.* 1790——Advantages of freeing the bridge, *ib.* 1791——Particulars as to the tolls, *ib.* 1793-1795——Particulars as to the shares, *ib.* 1800-1805.

Kingston. See *Kingston, Corporation of.* *Taxation.*

KINGSTON BRIDGE:

1. *Generally.*
2. *Tolls and Revenue.*

1. *Generally:*

A free bridge existed at Kingston before the erection of the present toll bridge, but it was latterly in a very dangerous condition, *Guy* 1256——Kingston Bridge is built of stone and is in substantial condition, *ib.* 1251, 1252——It was built under an Act of Parliament, *ib.* 1253-1255——The bridge is under the management of the corporation of that town, *ib.* 1285——Original cost of constructing it; amount of Exchequer Bill Loan Commissioners' advance which has been repaid, *Gould* 1304-1308. 1338, 1339——Witness hands in the Kingston Bridge Act, and the annual account for the last year, *Gemmet* 1642-1645.

2. *Tolls and Revenue:*

Sum realised annually by Kingston and Hampton Court Bridges, *Guy* 1283——Tolls stipulated to be levied at the letting of the tolls by the corporation, *Gould* 1324-1326——Difficulty of reducing the tolls; there is an estate belonging to the bridge which is sufficient to cover the ordinary expenses of lighting, &c., *ib.* 1327-1330——The principal grievance in connection with Kingston Bridge is the continuance of the toll over a longer period than was stated at its commencement, *Selfe* 1432-1436——The toll is fixed by the Act of Parliament; difficulty of making the toll less than it already is, *ib.* 1437-1442.

See also *Exchequer Bill Loan Commissioners.* *Tolls.* *Traffic.*

Kingston, Corporation of. An account of monies received by the corporation for re-building Kingston Bridge, *App. p.* 163.

Kingston, Inhabitants of. There is an unanimity of opinion in Kingston as to abolishing the tolls and imposing some tax in lieu of them, *Phillips* 1389-1399.

See also *Petitions.*

Kingston-upon-Thames. Account of monies disbursed and paid by the corporation of, on account of Kingston Bridge, *App. p.* 164.——*See* also *Petitions.*

L.

Laing, Samuel, M.P. (Analysis of his Evidence.)—Is chairman of the London and Brighton Railway Company, 1, 2——Insufficient space afforded by London Bridge for the traffic to the railway, 3-7——The inconvenience might be remedied by widening the bridge, and making a new road direct from Westminster Bridge to the station, 8-10. 18-22. 30-32. 43——The foot-traffic could be relieved by better piers on the Surrey side, and an additional arch to supersede crossing on the bridge, 11-13. 35-39——Amount of traffic over the bridge, 13-17. 23-29——It would not improve matters to make Southwark and Waterloo Bridges free, as long as the route was so intricate through Southwark, 33, 34. 57-59——The bridge funds should be made available for improving the bridge,

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Laing, Samuel, M.P. (Analysis of his Evidence)—*continued.*

40-42——Manner in which money for metropolitan improvements should be raised, 44——District within which the coal duty might fairly be levied; effect of the duty in excluding cheap coal, 45-50.

There would be no injustice in making the bridge funds bear the expense of the suggested improvements, 51-53——Extent to which London is benefited by the accession of railway traffic, 52-55——The construction of another bridge would not effect much good, without the proposed street were made, 56——A new bridge at Charing Cross might, if the approaches were wide, be advantageous, 60-62——Impediments to rendering the Thames Tunnel more available for traffic, 63-65——The direct street through Southwark would probably facilitate the communication with the north part of London by means of Waterloo Bridge, 66, 67——The poorer classes are the most aggrieved by the coal tax; amount to which it enhances the cost of coal, 68-76. 87-94——The expense of local improvements should be borne by the place where they are made, and not by the country, 77-82——Railway companies being already heavily taxed, ought not to be expected to contribute more to improvements than the ordinary assessment of the locality, 83-86.

Laing, Mr. The arch suggested by Mr. Laing at the Surrey end of the bridge is already there, *Brand* 251.

Leith, James. (Analysis of his Evidence.)—Is secretary to the Southwark Bridge Company, 1010——Income and expenditure of the company, 1011-1013——Dividends paid, 1014-1017. 1030, 1031——Southwark Bridge would not be much affected by a new bridge from St. Paul's, 1018——Considerations as to trying the experiment of making Southwark Bridge toll-free for a year, 1019, 1020——Increase that ensued in the revenue at the time that London Bridge was building, and on subsequent occasions of its close, 1021-1026——The cheap omnibuses have absorbed the revenue very considerably, 1026——If Southwark Bridge were made free it would divide the traffic with London Bridge, 1027-1029.

Leith, Mr. Paper delivered in by, relative to Southwark Bridge, *App. p.* 158.

Levy, Mr. See *Staines Bridge.*

London Bridge:

1. *Generally.*
2. *Proposed Alteration.*

1. *Generally:*

Insufficient space afforded by London Bridge for the traffic of the railways, *Laing* 3-7——Cost of building the bridge, *Jones* 129, 130——The greatest amount of inconvenience from the concentration of traffic arises at London Bridge, *Rep. p.* iii.

2. *Proposed Alteration:*

The inconvenience might be remedied by widening the bridge, and making a new road direct from Westminster Bridge to the station, *Laing* 10. 18-22. 30-32. 43——The beauty of the bridge would be spoilt by widening the surface, *Jones* 99. 152, 153——The Bridge House Committee are at present considering a plan for widening London Bridge, *Brand* 231-238——The plan for widening the bridge emanated from witness; description thereof, *Bunning* 276-279. 290-292——Sir John Rennie and Mr. Page are at present investigating the subject of widening London Bridge, *ib.* 279, 280. 295, 296. 303——Additional width proposed to be given to the bridge, *ib.* 281, 282. 287-289——Estimated cost of the alteration, *ib.* 283-286——The bridge would be materially lightened by it, *ib.* 293, 294——The alteration on the Surrey side could be easily effected, *ib.* 297-300——The bridge could not be widened as suggested, without destroying its architectural beauty, *James Walker* 402, 403——Advantage that will arise from widening the bridge, *Page* 551-555——The widening of London Bridge would not sufficiently relieve the traffic, *Evans* 737. 741-744. 759, 760——Objections on architectural grounds to the suggested widening of the bridge, *Tite* 1069-1071.

See also *Bridge House Estates.* *Bridge Traffic.* *Bunning, Mr.* *Chaplin & Horne, Messrs.* *Concentration of Traffic.* *Foot Passengers.* *Foundation.* *River Bed.* *Southwark Bridge.* *Taxation.* *Thames Tunnel.* *Traffic.*

London, Corporation of. The Corporation have the option of either widening the present bridge or building a new one, *Brand* 219-222——Expediency of the City purchasing Southwark Bridge, *James Walker* 374——Extent to which the City may be reckoned upon to co-operate in improving the approaches to the bridges, *Salomans* 658——Reasons for which the Corporation do not desire to estimate the value of the Bridge House Estate, *Tyrrell* 1666-1668.

Lower Marsh and New Cut. It would be better to widen and improve the Lower Marsh and the New Cut, than go to the expense of adopting Mr. Pennethorne's plan for a new street, *Tite* 1044-1047.

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M.

Machines. The machines at the toll gates constitute an almost effectual check upon the toll men, but fraud may be committed to a small extent, *Powell* 963–974.

Maclean, John Robinson. (Analysis of his Evidence.)—Has considered the subject of improving the thoroughfares of the metropolis, 431–436——Inconvenience arising at Bridge-street and Parliament-street by the concentration of the traffic over Westminster Bridge, 436——Witness would obviate this by erecting a bridge at Charing Cross and another at the south end of the Parliament Houses, 437–449. 451–461——Estimate of their cost, 450.

Witness should prefer a new bridge at Charing Cross to purchasing Waterloo Bridge, 462–467——The funds for erecting the bridges could be raised by a rate on the counties of Middlesex and Surrey, 468–473——A rate of two pence in the pound would provide the means of building the two bridges and throwing open the money-paying ones, 474–476——More bridges are preferable to widening existing ones, 477–482.

Mason, Henry Hewett. (Analysis of his Evidence.)—Present condition of Kew Bridge, 1780, 1781——Amount of the receipts, 1781, 1783. 1805——Amount of the expenses, 1782. 1784——Circumstances under which Kew Bridge was purchased by the present proprietor, 1785–1789——There is no clause in the Bridge Act to enable the Government to buy it, 1790——Advantages of freeing the bridge, 1791, 1792.

Particulars as to the tolls, 1793–1795——The people of Kew would not object to contribute to a county rate for freeing the bridges, 1796–1799——Particulars as to the shares, 1800–1805.

Metropolis. See *Bridges.*

Metropolitan Bridges. Satisfactory condition of the metropolitan bridges, with the exception of Blackfriars and Westminster, *Rep. p.* iii——Inadequate accommodation afforded by the existing bridges, *ib.*——Proposals in respect of extending the facilities afforded by the present bridges, *ib.*——*See* also *Bridges.*

Middlesex. See *Taxation.*

Money Market. The present condition of the money market will not admit of the money being raised for the improvement of Charing Cross Bridge, *Few* 621–623.

Moulsey. See *Petitions. Taxation.*

Moulsey Bridge. Heavy toll taken at this bridge; objection of the inhabitants to it, *Andrews* 1344–1352——Present condition of the bridge, *ib.* 1372.

N.

Navigation. See *Putney Bridge.*

Negotiations. Witness believes the negotiations for purchasing Southwark Bridge to have failed, from the large sum asked for it, *Evans* 718–721——A negotiation with Government has never been considered at any of the meetings of the Waterloo Bridge Company, *Plews* 893, 894——No negotiations have ever been entered into with Government for the purchase of Waterloo Bridge, *Powell* 982, 983.

New Streets. Expediency of having two new streets in the Borough, in order to distribute the traffic to Southwark Bridge, *Salomons* 664–670——It is very desirable that a new street should be made from the Town Hall in the Borough to the New Cut, *Evans* 752–754.——*See* also *Borough, The. Earl Street. London Bridge.*

New York. See *Ferries.*

North Kent Railway Company. See *Dresden.*

O.

Oliviera, Mr. Number of shares and annuities of the Waterloo Bridge Company which witness believes Mr. Oliviera to be the proprietor, *Powell* 913–919——Mr. Oliviera moved for this inquiry much to the regret of the other directors of the Waterloo Bridge Company, *ib.* 920–922——Letters to, as chairman of the committee, *App. p.* 160.

Omnibuses. The cheap omnibuses have absorbed the revenue of Southwark Bridge very considerably, *Leith* 1026.

P.

Page, Thomas. (Analysis of his Evidence.)—Witness is a civil engineer, and has an appointment under the Board of Works, 510–512——Situations at which it would be advisable to build new bridges, 513, 514——Improvement of which Southwark Bridge is capable, 515——Reasons in favour of having new bridges at Charing Cross and the Horseferry, 515, 516. 524–526. 528–537——Objections to Mr. Maclean's plan for a bridge at the Horseferry, 518——Explanation of witness's plan for a bridge at Charing cross, 519–524. 550——Expense at which it might be carried out, 527. 560–567——Expense of making a bridge at the Horseferry, 527. 560. 567——Gradients of Blackfriars, Southwark, and Westminster Bridges, 538–540——The erection of new bridges at Horseferry and the City is to be preferred to buying Vauxhall and Southwark Bridges, 541–547. 568–570.

Opinion in favour of a bridge from St. Paul's, 548, 549. 556. 559——Improvement that will be effected at London Bridge by widening it, 551–555.

[Second Examination.]—Explanation of witness's plan for a bridge below London Bridge, 1130–1139——A bridge above London Bridge would not relieve it of the great amount of traffic which flows from the Eastern part of the metropolis, 1140, 1141——Distance of the Thames Tunnel from the bridge proposed by witness, 1142, 1143——Estimate of the expense of the bridge, 1145——Length of the span, 1146, 1147.

Advantage of rock foundations for bridges, 1148–1153——Manner in which the approaches to the bridge on the Surrey side will be arranged, 1154–1164——Considerations as to the height proposed for the bridge, 1165–1170.

Page, Mr. Letter from, to chairman of the committee, *App. p.* 161.

Paris. Bridge accommodation afforded at Paris and Lyons as compared with London, *Bennoch* 342–344.

Parliament Street. Inconvenience arising at Bridge-street, Parliament-street, by the concentration of the traffic over Westminster Bridge, *Maclean* 436——Witness would obviate this by erecting a bridge at Charing Cross, and another at the south end of the Houses of Parliament, *ib.* 437–449. 451–461.

Passengers. The hinderance to passengers over Waterloo Bridge from stopping to pay tolls is very slight; some difficulty arose at the time of opening of the railway; it was obviated, however, by increasing the number of toll-men, *Plews* 890–906.

Paul's, Saint. See *Saint Paul's.* *Taxation.*

Petitions. Copy petitions from corporation of Kingston and the trustees of Kingston Bridge upon the subject of the bridge, *App. p.* 165——From the inhabitants of Kingston, relative to Kingston Bridge, *ib. p.* 166——From the inhabitants of Hampton, relative to Hampton Court Bridge, *ib.*——From the inhabitants of Staines, relative to Staines Bridge, *ib. p.* 167——From the inhabitants of Putney, relative to Putney Bridge, *ib. p.* 168——From the inhabitants of East Moulsey relative to Hampton Court Bridge, *ib.*——From the inhabitants of Fulham relative to Putney Bridge, *ib. p.* 169.

Phillips, Edward. (Analysis of his Evidence.)—Is acquainted with Kingston Bridge, 1386–1388——There is an unanimity of opinion in the locality as to abolishing the tolls and imposing some tax in lieu of them, 1389–1399——Richmond Bridge was built by a tontine; the only remaining life is eighty years old, 1400–1407——Kew Bridge is the property of a Mr. Robinson, 1408, 1409.

Plews, John. (Analysis of his Evidence.)—Extent of witness's acquaintance with the subject of metropolitan bridges, 808–811—The throwing open the toll-paying bridges would sufficiently relieve the present pressure of traffic, 812——Southwark Bridge ought to be the first thrown open, 812——Circumstances which must regulate any negociation as to the purchase of Waterloo Bridge, 813.

Distinction to be drawn between the shareholders and creditors of Waterloo Bridge, 814. 819–822——Injury done to the latter class by this inquiry, 814. 869–871——Explanation as to the manner in which the liabilities of the Waterloo Bridge Company arose, 815–818. 909–911——Increase of late years in the revenue of the bridge, 823–826——Mode of construction adopted with regard to the foundation of Waterloo, Southwark, and London Bridges, 827–830——No substantial alteration has arisen in the bed of the river since the removal of Old London Bridge, 831–833.

The proper site for a new bridge in the city is between Blackfriars and Southwark Bridges, 834–836——It would be a waste of money to build any new bridge at the west end of London, 837, 838——Sum expended in the construction of Waterloo Bridge, 839–844——Particulars as to the governing body of the company, 845–848——Manner in which the meetings of the shareholders are constituted and their proceedings conducted, 849–853——Income and expenditure of the company, 854–860——The tolls are not let, 861, 862. 890. 892.

This inquiry rather improves the value of the shares, 863–865——Amount of debt owing

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Plews, John. (Analysis of his Evidence)—*continued.*

owing to the annuitants of Waterloo Bridge, 866-868——The toll certainly prevents that full use of the bridge of which it is capable, 872-875——The shareholders' interest in the bridge would rise in value if the Committee reported in favour of its purchase, 876-878——The annuitants or creditors would be fairly entitled to an equal participation with the shareholders in the purchase money, 878-882.

The increasing yearly revenue ought to be considered in assessing the purchase money, 882-884——The value of the bridge is what it cost, as no bridge of a similar kind can be built at a less sum, 885, 886——Difficulty of purchasing the creditors' interest in the bridge, 887-889——The hinderance to passengers from stopping to pay toll is very slight; some difficulty arose at the time of the opening of the railway; it was obviated, however, by increasing the number of toll-men, 890-906——A negotiation with Government has never been considered at any of the meetings, 893, 894——Waterloo Bridge would admit of five times the present amount of traffic without any inconvenience, 895. 903——The frauds of carters in charging tolls to their masters without having used the bridge is prevented now by issuing tickets, 907, 908.

Postal Communications. The postal communication with London is not so quick at Castelnau as at Hammersmith, *Boileau* 1612-1616.

Post Office. Facility with which a bridge near St. Paul's might be adapted to the Government and Mr. Sang's design of connecting the railways with the Post-office, *Bennoch* 315, 316.

Powell, George. (Analysis of his Evidence.)—Is chief clerk and surveyor of Waterloo Bridge, 912——Number of shares and annuities of the Waterloo Bridge Company, of which witness believes Mr. Oliveira to be the proprietor, 913-919——Mr. Oliveira moved for this inquiry much to the regret of the other directors of the company, 920-922——Statement of the debts and liabilities of the company, 923-932.

Particulars as to the cost of Waterloo Bridge, 933-939. 955——Monies raised at different periods for defraying same, 940-943. 956-959——Per-centage payable on the annuities, 944-947——Distribution made of the annuities amongst the shareholders, 948-954——The machines at the toll-gates constitute an almost effectual check upon the toll-men, but fraud may be practised to a slight extent, 963-974——Particulars as to the receipts and expenditure of the company, 975-981.

No negotiations have ever been entered into with Government for the purchase of the bridge, 982, 983——Copy of the answer of the Duke of Wellington to an application by a Mr. Cope on the subject of abolishing tolls on the metropolitan bridges, 984.

Powell, Mr. Paper delivered in by, relative to Waterloo Bridge, *App. p.* 154.

Private Enterprise. For the Government to buy the metropolitan bridges and throw them open, is objectionable as an interference with legitimate speculation, *Brunel* 777-779——Witness believes that if the building bridges for the metropolis was left to an unfettered enterprise, their want would soon be supplied, and that they would pay when erected, *ib.* 783-785.——*See* also *Government Departments.*

Public Meetings. Meetings held at divers places to discuss the abolition of tolls on the country bridges over the Thames; the desire of having the coal tax applied to this purpose was universal, *Guy* 1266-1272.

Purchase of Bridges. There would be a stronger indisposition to buying up bridges than to building a new one, although the latter would be viewed in an objectionable light, *Tyrrell* 195——Favourable opportunity now offered for purchasing the bridges, *James Walker* 372.

See also *Bridge House Committee. Exchequer Bills. Freeing Bridges. Hampton Court Bridge. Private Enterprise. Southwark Bridge. Taxation.*

Putney. Resolution come to by a meeting at, on the subject of taxation for bridge purposes, *App. p.* 165.——*See* also *Petitions. Taxation.*

Putney Bridge. The market price of this bridge is about 70,000 *l.*, *Hare* 1627, 1628——The original cost of Putney Bridge was about 30,000 *l.*, *Chase* 1629——Accounts showing the gross and net receipts, *ib.* 1630, 1631——Amount of dividends paid, *ib.* 1632, 1633——The bridge is in good repair, *ib.* 1633——Value of the shares, *ib.* 1634——The impediments to the navigation of the Putney Bridge do not arise from the bridge, but from the alterations of the bed of the river and consequent shallowness of the water, *ib.* 1631-1641.

Putney Bridge Company. Henry Chasemore is secretary to the company, *Hare* 1377, 1378——There is no engineer, *ib.* 1379-1381.

Putney, Inhabitants of. The inhabitants are desirous for the removal of the toll from the bridge, *Hare* 1382-1385.

Pym, John. (Analysis of his Evidence.)—Witness delivers in a copy of his scheme, called a superway, for relieving the traffic of the metropolis, 1032.

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R.

Railway Companies. Railway companies being already heavily taxed, ought not to be expected to contribute more to improvements than the ordinary assessment of the locality, *Laing* 83–86.

Railways. The Charing Cross Bridge directors are prepared to bring a railway over the bridge whenever they have a suitable offer, *Few* 625, 626——The span of Charing Cross Bridge would have to be reduced to enable it to bear a railway, *Baly* 696–698——Witness apprehends that the railway company have the power of making another bridge at Hampton Court, *Woodward* 1807.——*See* also *Charing Cross Bridge.*

Railway Termini. Advisability of bringing the termini of the South Western and the South Eastern Railways to the foot of the proposed bridge at St. Paul's, *Bennoch* 356.

See also *Approaches.*

Railway Traffic. Inconvenience occasioned at London and Westminster Bridges by the large amount of traffic to the railway termini, *Rep. p.* iv.

Rates. See *Taxation.*

Rennie, George. (Analysis of his Evidence.)—Southwark Bridge is perfectly sound in every respect, 985–989——It is very desirable that it should be thrown open, 990, 991——Amount expended in its erection, 992——The bridge is capable of bearing any additional traffic that would arise on its being thrown open, 993, 994——Witness hands in a report recently made by him on the condition of the bridge, 995.

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River Bed. No substantial alteration has arisen in the bed of the river since the removal of Old London Bridge, *Plews* 831–833——The change in the bed of the river would be obviated by a dam upon the principle of that at Tours, *Tite* 1096–1113——Decrease which has been occasioned in the depth of the Thames below London Bridge by the removal of the old bridge, *ib.* 1114–1124——Period at which witness called the attention of the Bridge House Committee to the state of the bed of the Thames, *Burnell* 1669, 1670——Alterations that have occurred in the *régime* of the river's bed since 1832, *ib.* 1670–1674——Witness proposes to fix the bed of the river by erecting a dam; manner in which this dam would be constructed, *ib.* 1675–1682——Extent to which the erection of any new bridges would operate as a dam, *ib.* 1685, 1686————No fall would be caused in the water by the dam proposed by witness, *ib.* 1687–1690.

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S.

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1. *Particulars of the Proposed Bridge.*
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Salomans, Mr. Alderman. (Analysis of his Evidence.)—Extent of witness's knowledge of London streets, 637——Excessive amount of traffic over London Bridge, 638, 639——The remedy for the inconvenience arising from this circumstance, is to distribute the traffic more generally, 640——A diversion of the traffic passing on the northern side of the river should be made to the Surrey side, 641-644——All the toll-paying bridges ought to be thrown open, 645-647. 651——Improvement that would be required in the approaches to Southwark Bridge, 648-650. 664.

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Sites. Situations where it would be advisable to build new bridges, *Page* 513, 514——The proper site for a new bridge in the City is between Blackfriars and Southwark Bridges, *Plews* 834-836——It would be a waste of money to build any new bridge at the west end of London, *ib.* 837, 838——The sites witness would recommend for additional bridges are at St. Paul's, Essex-street, and the Horseferry; estimated cost of constructing them, *Tite* 1034. 1048, 1049——Sites upon which it would be advisable to erect new bridges if they are found necessary, *Rep. p.* iv.

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Smith, Robert. (Analysis of his Evidence)—*continued.*

The inhabitants of Richmond have a decided objection to pay any rate for throwing open the other bridges, having already contributed to their own bridge, and not being affected by others, 1560–1564——Table showing the receipts from tolls for the last four years, and the rate of toll levied under the Act, 1565–1567——The surviving life of the first tontine receives 800 *l.* a year, 1568–1570——The steep gradients of the approaches of the bridge are irremediable, 1572–1574.

Smith. Mr. Expenses allowed to this witness, *Rep. p.* x.

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2. *As to Throwing Open.*
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Southwark Bridge Company. Income and expenditure of the company, *Leith* 1011–1013——Dividends paid by the Southwark Bridge Company, *ib.* 1014–1017. 1030, 1031——Statement of annual tolls derived by, *App. p.* 158.

Spencer, Lord. The Battersea Bridge Act enabled Lord Spencer, the owner of the ferry at Battersea, to build the bridge; and in 1771 he conveyed it to fifteen proprietors, who subsequently reduced their number to thirteen, *Janson* 1761–1765.

Staines. The toll on Staines Bridge is a serious injury both to that town and Egham; there is a general desire on the part of the inhabitants for its abolition, *Ritchings* 1410——Reasons for which the people of Staines are anxious for the bridge to be made free, *T. Ashby* 1443–1448. 1467–1481——Injury done to the trade of Staines by the existence of the toll on the bridge, *F. Ashby* 1492, 1493.

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Staines Bridge. Capital of Staines Bridge; original cost, and annual amount of the tolls, *Ritchings* 1422–1431——A Mr. Levy holds the bridge at present as a mortgagee, *ib.* 1424–1430——The bridge is now in the possession of a mortgagee, *T. Ashby* 1460–1464——There is no toll on foot passengers, *ib.* 1483–1485——The bridge has been rebuilt five times within the recollection of witness, *ib.* 1486–1488——Particulars as to the funds with which the bridge was built, and also as to the revenue, *ib.* 1449–1459. 1465, 1466. 1482. 1489–1491.

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Taxation. Manner in which money for metropolitan improvements should be raised, *Laing* 44——The expense of local improvements should be borne by the place where they are made, and not by the country, *ib.* 77–82——The inhabitants of the City are not likely to approve of any direct tax for facilitating the traffic over the bridge, *Jones* 126–128. 134, 135. 154, 155——The coal-tax is the only source from which the expense of the proposed improvements should be taken, *ib.* 139–142. 177–180——Ten or twelve miles is the area within which a tax for the proposed improvements ought to be levied, *ib.* 143–151——Objection to any tax for building a new bridge, *ib.* 176——The inhabitants of the metropolis are strongly opposed to the imposition of any tax upon them alone for purchasing or throwing open bridges, *Tyrrell* 189–191——It would be considered as a contrivance for relieving those who had entered into a bad speculation, *ib.* 192–194——An extension of the bridge accommodation of the metropolis would be viewed as a benefit to the whole country, and therefore fairly chargeable on the Consolidated Fund, *ib.* 196, 197——It would not be advisable to defray the expense of any improvements by a rate, on account of its unpopularity, *Brand* 266, 267——Manner in which the expense of building the bridge proposed by witness would partly be met, *Bennoch* 351——A rate in aid of the funds for its construction would not be objected to, and it ought properly to be levied on the county, *ib.* 352——A rate levied within a certain radius would be the best method of raising the purchase money, *James Walker* 373. 375——The funds for erecting the bridges could be raised by a rate in the counties of Middlesex and Surrey, *Maclean* 468–473——A rate of two-pence in the pound would provide the means of building the two bridges, and throwing open the money-paying ones, *ib.* 474–476——Limits within which a rate ought to be raised, *Salomans* 655, 656——A small increase of the coal-tax would be the most preferable way of raising funds for extending the bridge accommodation, *Tite* 1057–1062. 1079——Area over which it is equitable to levy a tax for bridge purposes, *ib.* 1082–1092——A penny rate on the counties of Surrey and Middlesex would raise a sufficient sum for buying up the country bridges, *Guy* 1273–1275——Area within which it would be equitable to levy a rate for bridge purposes, *ib.* 1286–1302——The coal-tax would be the most desirable source from which to derive the purchase money for the toll-paying bridges, *Gould* 1310–1317——The coal-tax is so imperceptibly levied, and so small in amount, that it is the least objectionable way of raising money, *ib.* 1318–1320——A sufficient sum for purchasing the country bridges could be raised by a penny rate on the two counties, *ib.* 1340–1343——There is a great willingness to pay a rate to buy up Moulsey Bridge, *Andrews* 1353–1358——The inhabitants of Staines would not object to a tax over an area of twenty miles around the Post-office for opening all the bridges, *Ritchings* 1411–1421——There is a general willingness on the part of the inhabitants of Staines to share in a tax for abolishing tolls on all the bridges, *F. Ashby* 1494–1498——The inhabitants of Walton are favourable to a tax, such as the coal-tax, for removing the tolls from all the bridges, *Wilson* 1517–1523——Witness is of opinion that the inhabitants of Hampton of his district would be willing to contribute their quota of taxation towards opening all the metropolitan bridges, *Jackson* 1532, 1533——The inhabitants of Richmond have a decided objection to pay any rate for throwing open the other bridges, having already contributed to their own bridge, and not being affected by others, *Smith* 1560–1564——Since witness's last examination the inhabitants of Putney have held a meeting, and come to a resolution that the most equitable way of raising money for the redemption of the bridge would be by a county rate, and not the coal-tax, with an exception, however, as to the latter tax, *Hare* 1622–1626——

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1626——The Kingston people are anxious for the abolition of the bridge toll, but they have never considered how they should prefer to be rated for that purpose, thinking that the Woods and Forests Commissioners could wipe out the debt with the Exchequer Loan Commissioners, *Gemmet* 1646-1649——Witness considers that the coal-tax, or any tax raised within the twenty mile area, would be the fairest manner of freeing the bridges, *Tyrrell* 1650-1655. 1662-1665——The people of Kew would not object to contribute to a county rate for freeing the bridges, *Mason* 1796-1799.

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Tayler, Stephen Seaward. (Analysis of his Evidence.)—Battersea bridge was built under an Act of Parliament of 1766; it is in a good state of repair, 1691-1697——This bridge is fully adequate to the traffic, 1698-1701——The inhabitants in the neighbourhood of the bridge have expressed no opinion as to the desirableness of removing the toll, 1702-1704.

The tolls derived from Battersea Bridge amount to about 6,000 *l.* per annum, 1705-1710——Property belonging to the bridge exclusive of the tolls, 1711, 1712.

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Tite, William. (Analysis of his Evidence.)—There is a great want of free bridges in the Metropolis, 1033, 1034——The sites which witness would recommend for additional bridges are at St. Paul's, Essex-street, and the Horseferry; estimated cost of constructing them, 1034. 1048, 1049——A bridge from Charing Cross would be a great convenience, 1035, 1036, 1040, 1041——Expediency of erecting a bridge at St. Paul's, 1037-1039.

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The bridge at St. Paul's would be required, even supposing Southwark Bridge to be thrown open, 1080, 1081——Area over which it is equitable to levy a tax for bridge purposes, 1082-1092——Blackfriars Bridge is entirely supported by the scaffolding, 1093-1095——The change in the bed of the river could be obviated by a dam upon the principle of that at Tours, 1096-1113——Decrease which has been occasioned in the depth of the Thames below London Bridge by the removal of the old bridge, 1114-1124——It was not supposed at the time London Bridge was projected that the increased scour would have so serious an effect upon the foundations of the other bridges, 1125-1129.

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Tolls. Tolls levied on the Glasgow Bridges, *Bennoch* 350——The toll proposed to be imposed at Charing Cross Bridge will be no impediment to the traffic, *Few* 594-596. 602——The tolls on Waterloo Bridge are not let, *Plews* 861. 890. 892——The toll certainly prevents that full use of Waterloo Bridge, of which it is capable, *ib.* 872-875——The toll on Southwark Bridge is the great cause of the limited use of it, *Tite* 1063-1065——The effect of the tolls levied at Hampton Court Bridge is to turn a large amount of traffic into another direction, *Guy* 1230——Objections to the toll system of the bridges at Kingston and Hampton Court, *ib.* 1284——Injurious operation of the toll levied at Kingston Bridge, *Gould* 1309——The operation of the toll at Kingston Bridge is in the nature of a very heavy tax on the surrounding neighbourhood, *ib.* 1323——Popular feeling

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Tower, The. Explanation of witness's plan for a bridge below London Bridge, *Page* 1130-1139——Estimate of the expense of this bridge, *ib.* 1145——Length of the span, *ib.* 1146, 1147——Manner in which the approaches to the bridge on the Surrey side will be arranged, *ib.* 1154-1164——Considerations as to the height proposed for this Bridge, *ib.* 1165-1170——The advantages of a bridge lower down the river than Southwark Bridge would not be so great as throwing that bridge open, *Horne* 1200-1211.

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Tyrrell, Edward. (Analysis of his Evidence.)—The inhabitants of the metropolis are strongly opposed to the imposition of any tax upon them alone for purchasing or throwing open bridges, 189-191. It would be considered as a contrivance for relieving those who had entered into a bad speculation, 192. 194——There would be a stronger indisposition to buying up bridges than for building a new one, although the latter would be viewed in an objectionable light, 195——Such improvements would be viewed as a benefit to the whole country, and therefore fairly chargeable on the Consolidated Fund, 196, 197——Witness does not concur in Mr. Laing's suggestions, 198, 199.

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Vauxhall Bridge Company. The original proprietors receive no interest on their capital, *Williams* 1173——Number of shares; their value; amount of dividend paid on them, *ib.* 1178–1182——Amount of debt of the company, *ib.* 1191–1195.

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Walker, James. (Analysis of his Evidence.)—Particulars as to witness's acquaintance with the subject of bridges, 357–362——The existing bridge accommodation of the metropolis is less than is requisite, 363–365——The immediate remedy for the evil is to throw open the present toll-paying bridges, 366–371. 400, 401——Favourable opportunity now offered for purchasing these bridges, 372——A rate levied within a certain radius would be the best method of raising the purchase money, 373. 375.

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REPORT:

METROPOLITAN BRIDGES.

Ordered, by The House of Commons, *to be Printed,*
14 *July* 1854.

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REPORT

FROM THE

SELECT COMMITTEE

ON

PUBLIC HOUSES;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE.

Ordered, by The House of Commons, *to be Printed,*
13 *July* 1854.

367.

Lunæ, 20° *die Februarii*, 1854.

Ordered, That a Select Committee be appointed to examine into the System under which Public Houses, Hotels, Beershops, Dancing Saloons, Coffee Houses, Theatres, Temperance Hotels, and Places of Public Entertainment, by whatever Name they may be called, are Sanctioned, and are now Regulated, with a view of Reporting to this House whether any Alteration or Amendment of the Law can be made for the better Preservation of Public Morals, the Protection of the Revenue, and for the proper Accommodation of the Public.

Committee nominated of,—

Mr. William Brown.
The Judge Advocate.
Sir George Goodman.
Sir George Grey.
The Earl of March.
Sir John Pakington.
Mr. Beckett.
Mr. Barrow.
Mr. Gregson.
Lord Dudley Stuart.
Lord Ernest Bruce.
Mr. Packe.
Mr. Sotheron.
Mr. Lowe.
Mr. Ker Seymer.

Ordered, That the Committee have power to send for Persons, Papers, and Records.

Ordered, That Five be the Quorum of the Committee.

Jovis, 13° *die Julii*, 1854.

Ordered, That the Committee have power to Report their Opinion and Observations, together with the Minutes of Evidence taken before them, to The House.

REPORT.

THE SELECT COMMITTEE appointed to examine into the System under which PUBLIC HOUSES, HOTELS, BEERSHOPS, DANCING SALOONS, COFFEE HOUSES, THEATRES, TEMPERANCE HOTELS, and Places of Public Entertainment, by whatever Name they may be called, are Sanctioned and are now Regulated, with a view of Reporting to this House whether any Alteration or Amendment of the Law can be made for the better Preservation of Public Morals, the Protection of the Revenue, and for the Proper Accommodation of the Public; and who were empowered to Report their Opinion and Observations, together with the MINUTES of EVIDENCE taken before them, to THE HOUSE;——HAVE considered the Matters to them referred, and have agreed to the following REPORT:

YOUR Committee have devoted a considerable time, both in the last and present Session of Parliament, to the several matters referred to them, and which have of necessity involved a very extended inquiry.

The licensing system has necessarily constituted a leading branch of the investigation. Your Committee have called before them the chairman of the Board of Inland Revenue, several borough and county magistrates, the Chief Commissioners of the Metropolitan and City Police, superintendents of police in the provincial towns, and parties interested in the system as brewers, licensed victuallers, beersellers, and their authenticated representatives.

Division of licences.

Apart from distillers and brewers, the persons, either by licence, or some equivalent sanction, entitled to supply the public with intoxicating liquors, seem to be comprised under the following heads: wholesale wine dealers, wholesale spirit dealers, wholesale beersellers, victuallers or publicans, beerhouse-keepers to have drinking on the premises, beerhouse-keepers not to have drinking on the premises, three-halfpenny table-beer-sellers who are not required to have a licence, cider and perry sellers, free vintners who claim, as a privilege of the Vintners' Company, to sell anywhere in the kingdom wine to be used on the premises without licence, proprietors of theatres who, owing to a legal difficulty, are allowed to sell excisable liquors for use on the premises without licence, and grocers and others licensed to retail sweets, made wines, mead, or metheglin. The licence to sell by wholesale is obtained from the Board of Inland Revenue, or Collectors of Excise. The duty upon the wine and spirit licences is, for each, 10 guineas, and for bottled beer three guineas.

Wholesale wine, spirits, and beer.

Wholesale dealers are restricted from selling spirits in any less quantity than two imperial gallons, and bottled beer in less than 24 reputed quarts, under a penalty of 50 *l.*, with power to the justices to remit to 12 *l.* 10 *s.*, but not below that amount; they can, however, under the 11th & 12th Vict, c. 121, s. 9, known as the "Maraschino Act," take out a retail liqueur licence, the duty upon which is two guineas, and which enables them to sell a single bottle of any foreign liqueur.

Publicans. Retail.

Licensed victuallers obtain, in the first instance, a certificate from the magistrates, stating that such an one shall be licensed and empowered to sell under the authority of the Act of Parliament, on the production of which, and payment of

the duty, the Board of Inland Revenue give the licence. No bond or surety is required, and officers of the Excise have no inquiries to make, and have no option.

The amount paid for the licence is determined by the rating according to the following scale :—

	RATE OF DUTY.		
	£.	s.	d.
Duty on publicans' licences varies with rating. Publicans for Retailing Beer :			
Whose premises are rated under 20 *l.* per annum - - - -	1	2	-½
„ - - at 20 *l.* and upwards - - - -	3	6	1¾
Publicans for Retailing Spirits :			
Whose premises are rated under 10 *l.* per annum - - - -	2	4	1
„ - - at 10 *l.* and under 20 *l.* - - -	4	8	2¼
„ - - at 20 *l.* „ 25 *l.* - - -	6	12	3½
„ - - at 25 *l.* „ 30 *l.* - - -	7	14	4
„ - - at 30 *l.* „ 40 *l.* - - -	8	16	4¾
„ - - at 40 *l.* „ 50 *l.* - - -	9	18	5¼
„ - - at 50 *l.* and upwards. - - -	11	-	6

Magistrates' certificate.

The justices grant the certificates at the annual general licensing meetings, held pursuant to the 9th Geo. 4, c. 61, s. 1, in the counties of Middlesex and Surrey within the first 10 days of March, and in every other county on some day between the 20th of August and the 14th of September inclusive. All licences are required to be granted or renewed annually. As to licensed victuallers, they are, upon compliance with certain forms, issued or withheld solely at the discretion of the licensing magistrates. The wording of the Act is, "And it shall be lawful for the justices acting in and for such county or place assembled at such meeting, or at any adjournment thereof, and not as hereinafter disqualified from acting, to grant licences for the purposes aforesaid to such persons as they the said justices shall, in the execution of the powers herein contained, and in the exercise of their discretion, deem fit and proper." The licence does not include wine, and is based upon the sale of beer, cider, or perry, to be drank upon the premises. The words are, "And be it further enacted, that no licence for the sale of any spirits or foreign wine, or sweets or made wines, or mead or metheglin, by retail, to be drank or consumed in or upon the house or premises where sold, shall be granted to any person or persons who shall not have, and produce a licence 'for the sale of beer,' cider, or perry by retail, to be drank or consumed in or upon such house or premises in that behalf granted as herein by this Act before mentioned; and if any licence for the sale of any spirits or foreign wines, or sweets or made wines, or mead or metheglin by retail, to be drank or consumed in or upon the house or premises where sold, shall be granted to any person or persons other than as aforesaid, such licence shall be and is hereby declared to be absolutely null and void to all intents and purposes; and all and every such person or persons as aforesaid shall be subject and liable to all and every penalty and penalties imposed upon persons selling spirits or foreign wines, or sweets or made wines, or mead or metheglin, by retail without licence" (6th of Geo. 4, c. 81, s. 14).

Retail spirit licence not granted without beer licence.

Beerhouse-keepers' licence granted by the Excise.

The beerhouse-keepers' licence is obtained from the Commissioners or collectors of Excise, who are compelled to grant the licence where the applicant has complied with the conditions imposed by the Act of Parliament, in the production of a certificate as to the rating of the house, signed by the overseer (3 & 4 Vict. c. 61, s. 1), and a certificate of character, where the licence is to drink on the premises, signed by six resident ratepayers occupying houses not rated to the poor at less than 6 *l.* a year, and who shall not be maltsters, brewers, sellers of spirituous or malt liquors, nor proprietors of houses licensed for the sale of such liquors (4 & 5 Will. 4, c. 85). Where the licence was originally granted prior to the 3d & 4th Vict., c. 61, s. 1, no certificate of the rating is required;

required ; and in cities, corporate towns, and towns returning Members to Parliament, where the population is above 5,000, no certificate of character.

Certificates of character and rating.

The rating qualification established by the above Act is, for the cities of London and Westminster, or any place within the bills of mortality, or any place within one mile of any polling-place used at the last election, or any place having a population exceeding 10,000, 15 *l.* ; for places similarly circumstanced, the population of which exceeds 2,500, 11 *l.* ; and for all other places, 8 *l.* The uniform duty for the licence to have drinking on the premises is three guineas ; and not to have drinking on the premises, one guinea.

A quart may be sold without licence.

The sale of beer at three-halfpence a quart, without licence, seems to have been first granted by 12th Charles 2, c. 24, s. 39, and to have formed the subject of exceptional clauses in the Beer Acts ; but so confused had the law as to the sale of beer and spirits become, especially after 1 Will. 4, c. 64, as to create a doubt whether the original clause, or any other, providing the like exception, were any longer in existence ; the difficulty was overcome by the following Treasury Order, bearing date 9th November 1830, and general order thereon of Board of Inland Revenue, bearing date 16th November 1830, giving the seller the benefit of the doubt, and confirming the privilege.

Treasury Minute sanctioning such sale without licence.

TREASURY AUTHORITY allowing Table Beer at 1 ½ *d.* to be Retailed without Excise Licence, and General Order issued thereon.

Gentlemen, Treasury Chambers, 9 November 1830.

THE Lords Commissioners of His Majesty's Treasury have had under their consideration your Report of the 30th ultimo, on the Memorials of the Birmingham Brewery Company, M. Brown and H. N. Byles, praying to be informed whether, under the regulations of the Act 1 Will. 4, c. 64, persons are allowed to sell table-beer by retail, as heretofore, without taking out an Excise licence ; and I am directed by their Lordships to authorise you, under all the circumstances stated in your Report, to allow the retailers of table-beer, as heretofore, to sell their beer without taking out an Excise licence, provided such beer is in no case more than 1 ½ *d.* per quart.

I am, &c.

(signed) *Geo. R. Dawson.*

GENERAL ORDER.

Excise Order thereon.

Excise Office, London, 16 November 1830.

IN pursuance of directions from the Right Honourable the Lords Commissioners of His Majesty's Treasury, signified by letter from one of their Lordships' Secretaries, dated the 9th instant, Ordered, that no objection be made by the officers of this Revenue to the sale of table-beer only, by retail, by persons not licensed, in the same manner as before the passing of the Act 1 Will. 4, c. 64, provided such beer be not sold at a higher price than 1 ½ *d.* per quart.

By the Board,

Cha^s Browne.

Cider and Perry licences are on the same footing with beer licences, and pay the same amount (11 Geo. 4, and 1 Will. 4, c. 64, s. 30).

Free vintners sell wine without licence.

Persons free of the Vintners' Company claim, as by right, to sell wine without an Excise licence, and to send out spirits in sealed bottles (1566) to be consumed on or off the premises. Sir Richard Mayne states that the right has been disputed, but always without effect (179).

Theatres sell without licence.

In theatres the sale without licence arises from the contradictory provisions. Of the 5th & 6th of Will. 4, c. 39, authorising the proprietor to have a licence without the magistrate's certificate, and under which the Excise would grant it ; and a Treasury Order, bearing date 11th September 1835, prohibiting the Excise from issuing the licence (523).

Home-made wines, Excise licence.

The licence to sell sweet made wines, mead or metheglin, may be obtained by any person, under the Excise Licensing Act, 6 Geo. 4, c. 81. The duty on the licence is one guinea, and it restricts the holder to sell by the bottle or gallon.

The distinctions as to licences lead to evasion of the law.

Your Committee have had evidence in proof that these distinctions in the trade are the occasion of constant evasions and infringements of the law. It is admitted by the wholesale dealers themselves, that they do not observe the restriction to sell spirits in not less quantity than two imperial gallons, or twelve reputed quarts. A dealer having establishments both in London and Brighton, gives the names of several houses of the highest standing at the west end of London, who have been fined for selling less than the legal quantities (1563). The risk is taken daily. Mr. Webb, Brighton, states that "the law is evaded every day by every respectable wine merchant in the place; almost every house in Brighton has been informed against" (1587–1588); and another witness also from Brighton, and in the same trade, states "that for 20 years he broke the law by sending two bottles of brandy at a time to a late Chairman of the Board of Excise" (1628).

Wholesale dealers sell by retail.

Three-halfpenny beersellers sell ale.

Colonel Hogg, chief constable of Wolverhampton, states that "there are a great many places where beer is sold without a licence, supposed to be worth 1½ *d.* a quart; but where ale as good as can be had at any other place, may be had after all the other houses are closed" (6837–6832). Similar places are spoken of by several witnesses as existing in greater or less numbers at Manchester, Bolton, Preston, Oldham, throughout Hampshire, and in other places; and there is no room to doubt that wherever opportunity offers, three halfpenny beer is made use of as a cover for the unlicensed sale of other drinks.

Beershops licensed for off, have drinking on, premises.

Captain Harris, chief constable of the county of Hants, states, that "he has frequently convicted parties, licensed only to sell for consumption off the premises, of selling for consumption on the premises" (7114–15.) The Chairman of the Board of Inland Revenue refers to "the very great temptation to parties having a beer licence to sell spirits, and the great opportunity afforded to those having a beer and spirit licence to sell wine without a licence (389), and states, that great difficulty is at present felt, both by the Excise and the police, from the fact that the house having a licence to sell beer, and a number of persons resorting to it, there is an opportunity, and great temptation, to evade the law by supplying people with spirits (393); and further, that the more frequent cases of offence are of sales of wine at places licensed to sell beer and spirits, but not to sell wine (381); and they have also cases of spirits being sold in houses licensed only for the sale of beer" (349).

Free vintners sell other drinks as wine.

Mr. George Ridley, of Crutched Friars, himself for many years connected with the wine and spirit trade, states, that "vintners' licences are frequently borrowed. If he wanted a vintner's licence, he might find one named Smith, and put his name over the door, and thus obtain the privilege of selling wine" (4864); and Sir Richard Mayne states, that "under the vintners' privilege, though they have authority to sell wine only, he believes they sell other things. It is very difficult to say what is wine in glass or in bottles, and it is difficult to make out in evidence whether wine or other drink is sold" (185).

The restrictions as to wholesale dealers inconvenient.

It is stated that the public are inconvenienced (and would be so to a much greater extent, if the law were not broken,) by the restriction upon wholesale dealers. Persons are unwilling to send their servants to a public-house, and have no other place open to them where any moderate quantity of brandy, or other spirits, may be procured. It is not easy to find any good grounds for the distinction that wine may be sold by the single bottle, and spirits in no less a quantity than 24 reputed quarts; nor is it reasonable to suppose that the majority of dealers will prefer the chance of losing their custom for wine to the risk of being informed against for selling a less quantity of spirits than is allowed by law. The inconvenience is so universally admitted that it has frequently engaged the attention of Parliament, and successive Governments have proposed to amend the law, but hitherto with no further result than the 11 & 12 Vict., c. 121, s. 9, commonly known as the "Maraschino Act," and by which wholesale dealers, provided, in addition to their licence to sell in quantity, they take out a retail licence, may sell a single bottle of any foreign liqueur.

The Maraschino Act.

Hardship of the restrictions admitted by magistrates and Excise.

The admitted hardship of the restriction is further evidenced by the magistrates, in every instance, mitigating the penalty from 50 *l.* to 12 *l.* 10 *s.*, the minimum allowed them by law, and the further reduction in several recent cases by the Board of Inland Revenue to the nominal amount of 10 or 20 shillings.

There

There is no other ground put forward for the continuance of the existing restriction upon wholesale wine and spirits dealers than that their extinction would enable wholesale dealers to sell in quantities which can now be had only of hotel keepers and licensed victuallers.

Licences not concerned with trade distinctions.

The only result to licensed victuallers of preventing persons with a wholesale spirit licence from selling less than 24 reputed quarts, is to give rise to a general belief amongst the public that brandy and other foreign spirits are to be had, of the best quality, from the wholesale dealers only; and there can be no doubt that the belief will continue until the single bottle can be had alike from the merchant and the retailer. The publicans are themselves, therefore, interested in the abolition of the restriction. Meanwhile it is a manifest injustice that, whilst the wholesale dealer cannot, without a magistrate's licence—which would involve him in consequences inconsistent with his business—sell in any less quantity than two gallons, the retailer, being in possession of a magistrate's licence, can obtain a wholesale dealer's licence as a matter of course, and then enter from below upon the competition from which he would exclude those above.

The restriction on wholesale dealers is injurious to retailers.

Your Committee do not find that a majority of the wholesale dealers are desirous of selling for consumption on the premises; on the contrary, Mr. Butler, who spoke as to the opinions of a considerable number in the trade, states, that they wish only to sell in sealed bottles (1572), but to be permitted to sell a single bottle (1575); that they would not object to pay an increased sum for the licence to do so, so that they could conduct their business fairly and honourably (1568).

Your Committee desire very strongly to express their conviction of the impolicy of permitting the continuance of a law which, whilst it interferes with legitimate trade, and subjects the public to inconvenience, affords constant opportunity for vexatious proceedings by common informers, and is condemned alike by the magistracy and the Board of Inland Revenue.

The distinction between beershops and public-houses appears also to Your Committee to have been productive of considerable evil.

Evils of distinction between beershops and public-houses.

The natural tendency of the distinction between the two classes of houses is to give rise to an unhealthy competition, under which both parties are drawn to extreme expedients for the attraction of custom. Mr. Stinton says, "There is a great deal of gambling carried on in Birmingham, although the police do all they can to put it down; when the policeman is about the cards are hid, and that has been brought on entirely owing to the beer trade; because if the licensed victuallers did not allow it, the parties would go to a beerhouse. I recollect a case myself in which I said, 'I will not allow cards in my tap-room,' and the consequence was, that the men said, 'Well, there is a beerhouse, and if you do not allow it, we will go to that house.' Bad language was being used, and my house was cleared; I lost all my custom for a time, and I was obliged to allow it, in spite of the law."

Forced competition gives rise to expedients to attract custom.

It becomes difficult for publican or beershop to prevent card-playing and gambling.

The two classes of houses are not upon an equal footing in trade; the beershop-keeper must make his profit upon beer only, and has to compete in its sale with the licensed victualler, who has the advantage of selling spirits as well as beer. The publican may sell beer at little or no profit, he can make up for the loss upon that branch of his trade by the profit upon spirits, he can therefore afford to attract custom by a price at which, unless at a loss, it is not possible for the beershop-keeper to sell; the latter is thus in many cases driven to seek a profit by deteriorating the quality of his beer, but even then, he is met by the publican, who has the advantage, that he can not only compete in reducing the beer, but can still undersell his competitor, and compensate himself for the loss by lowering the quality of the spirits in which he also deals.

The two classes of houses have not the same opportunity of success.

The necessity of making a profit on beer only gives rise to adulteration.

Your Committee have had some important evidence of the extent to which this evil has been carried. A late partner in one of the metropolitan breweries says, "it is quite notorious if you drink beer at the brewery, and at a public-house a little way off, you find it a very different commodity" (4538). Another witness, himself a London publican, states that most publicans have a system of doing something to their beer (1742). It is not possible to make a living by selling beer at 3*d.* a pot, for which the brewer gets 1*s.* a gallon; but if a pail

Beer is seldom as good at the public-house or beershop as at the brewery.

of liquor be put into it there is that amount of profit (1738). The beer is dashed; there is what he calls five per cent. of water put in the beer. As to spirits, the same witness states that paying 12*s.* a gallon for gin he is obliged to mix water with it to sell it at 4*d.* a quartern, which is but 10*s.* 8*d.* a gallon; and that there is added, besides the water, sugar to sweeten it. Mr. Ridley, who has been long connected with the wine and spirit trade, and who has under his management certain offices for the analysation of alcoholic liquors, states that the standard price of all the large porter brewers—and as to which there are agreements amongst them—is 33*s.* a barrel, with five per cent. off, that is 31*s.* 6*d.* net; the barrel is 36 gallons; it is increased to 48 gallons by the addition of water and sugar, and then sold at 3*d.* per pot, which yields a profit of 15*s.* a barrel (4706. 4730), whilst in the genuine state the profit would be about 4*s.* (4746). The Witness had sampled the beer of a house on the Surrey side of the water where they sell at 3*d.* a pot, and draw 48 butts a month, and found that from their fraudulent process of reducing, they had a profit of 45 per cent. (4733, 4734). The Witness further states that there are several recipes for the adulteration, such as, "to a barrel of porter 12 gallons of liquor, four pounds of foots, one pound of salt; and then there is sometimes, to bring a head up, a little vitriol, cocculus indicus, also a variety of things so very minute, that unless they are admitted by recipes in their hands, we cannot easily detect the small proportions" (4700).

How adulterated.

Chemical analysis.

Dr. Hassall, a London physician, who for several years has devoted his attention to the adulteration of liquors and articles of food, states that a "solution of cayenne pepper is commonly used to increase the pungency of gin; it is used in the shape of a tincture, so that it mixes readily with the spirits; but the addition of water to any strong spirituous liquid has the effect of making the mixture turbid and milky, and this necessitates a subsequent process of fining. To fine this mixture of water and ordinary spirits, carbonate of potash (commonly called salt of tartar) and alum are employed; those subside to the bottom, and carry with them the essential oil upon which turbidity depends, leaving the spirits clear and bright. The use of potash and alum is very frequent indeed in gin" (4350). The same Witness gives as the result of the analyses of nearly 50 samples of beer, ale, porter, and stout, that they are weakened by the addition of water, which is as essentially an adulteration as any other mixture (4318. 4309).

Adulteration of spirit.

Adulteration of beer.

Mr. John William M'Culloch, an analytical chemist, for 10 years in the employment of the Board of Inland Revenue, states that he has analysed many hundred samples of beer, both for the Excise and since he has left their employment; that since Christmas 1853, he has analysed 480 samples. In 40 samples of brewers' beer, he found the strength invariably 10½ gallons proof spirit to every 100 gallons of beer; but at several of the licensed victuallers' supplied by those brewers, it did not exceed 6 gallons and 8–10ths; and of 150 samples from licensed victuallers dealing at these breweries, there was not one of them within 20 per cent. of the brewery standard. In the instance of a publican at the St. Katherine's Docks, who sends out an immense quantity of beer, it was reduced to 6 gallons proof spirit in the 100; so that by the addition of water he had increased his 100 gallons of beer to 170 (4388 to 4394). His beer is sold at 3*d.* a pot, and the profit made on the 100 gallons, by the addition of the water, would therefore be 3*l.* 15*s.* (4450.) The same witness states that a sample of gin recently analysed, contained 75 lbs. of sugar to every 100 gallons (4456).

Result of comparative strength of samples at the Breweries and Public-houses.

Largeness of profit on adulteration.

Insufficiency of existing law to prevent adulteration.

For this almost universal practice of imposition upon the public, wrong to the honest trader, and fraud upon the revenue, the extent of which, by the substitution of water for beer, Mr. M'Culloch estimates at one-fourth of the malt tax, the law appears to afford no sufficient remedy. The parties are liable to heavy penalties for adulteration, to forfeiture of the licence, and disability to hold any future licence, but there is difficulty in convicting for adulteration, because there is no fixed standard of strength. The brewer may manufacture any strength, and the publican or beershop-keeper have any strength for sale. Where there are considerable profits upon fraud, pecuniary penalties are readily paid, and neither in the instance of the sale of articles not included in the licence, nor of adulteration, does the ultimate penalty of the withdrawal of the licence seem to be enforced. A witness, who has long been connected

Proof of difficulty, from being no fixed standard of strength.

The profit covers the penalties on the few cases of conviction.

nected with trade, states, that "The magistrates do not take pains to investigate how these houses are conducted, and instead of putting in force the power they have to deprive them of their licence for adulterating their liquors, they take no notice whatever" (4685). The power to forfeit the licence in the case of beershops, rests not with the Excise, but with the magistrate; the Excise grant, but they cannot withdraw the licence. The Commissioner or collectors of Excise can act only on written notice of the adjudication of the magistrates. Mr. John Wood says, "The justice may fine the party, and he may in addition to the pecuniary penalty adjudge that he should forfeit his licence, but if he does not so adjudge, and if he does not give notice of such adjudication, either to the Commissioners of Excise or to the collector of Excise, as the case may be, then we, having no notice of such adjudication, have no right whatever to interfere; and in practice we never have such notice. I believe we have not one single instance in which such an adjudication has been forwarded to us. The magistrates, as it appears to me, generally decline that part of their duty; having the option, they do not so adjudicate; it appears to me that they generally consider it sufficient to convict the party in a pecuniary penalty, and they do not communicate to us, as the Act of Parliament prescribes to them, the fact that there has been a conviction; that is, they consider the conviction in the penalty sufficient, and they do not wish it to be followed by the consequences which the Act of Parliament prescribes."

Publicans' licence not withdrawn by magistrates.

Excise have no power over Beershop licence but on notice of conviction by magistrates.

Magistrates do not convict.

Your Committee have not sufficient evidence to enable them to judge of the extent to which the adulteration and dilution of beer and spirits prevails, that it is very general there is reason to believe; it is the almost natural fruit of the unequal and unjust competition established by the distinction between the publicans and beershop-keepers; still Your Committee, are satisfied that there are many, both publicans and beershop-keepers, who do not engage in these discreditable practices, and whose business is fairly and honourably conducted.

It has been suggested that it would afford an easy remedy against adulteration, if a standard were fixed below which the retailer must not have any beer upon his premises. The establishment of such a restriction must, however, be undertaken with the utmost caution, lest, in the effort to prevent the adulteration of beer of the strength ordinarily manufactured, the legitimate manufacture and sale of beer of inferior strength should be prevented. In the case of spirits, there does not seem to be any difficulty; the rectifier cannot send it out beyond 17 to 20 under proof, and it is only necessary that the publican shall be prohibited from having it on his premises below that standard.

Suggestion to prevent adulteration by fixing standard below which beer and spirits not to be on premises.

The matter of adulteration and dilution is, however, sufficiently important to form the subject of a distinct inquiry; and Your Committee are of opinion, that as early as may be convenient, an inquiry should take place into the whole question of the adulteration of food, drink, and medicines. The suppression of adulteration is of the utmost importance, not to the consumers only, but in checking the dishonest competition, so recklessly carried on to the ruin of fair trade.

Important to have further inquiry into adulteration of food, medicines, &c.

The beershop system has proved a failure. It was established under the belief that it would give the public their beer cheap and pure, would dissociate beer-drinking from drunkenness, and lead to the establishment throughout the country of a class of houses of refreshment, altogether free from the disorders supposed to attend exclusively on the sale of spirits. The Committee of the Lords which sat in 1849–50, however, report that of the beer-houses, "a very large proportion are, as in the case of public-houses, the actual property of brewers, or tied by advances to them; that they are notorious for the sale of an inferior article; that the consumption of ardent spirits has, from whatever cause, far from diminished; and that the comforts and morals of the poor have been seriously impaired." Much of the evidence before Your Committee is to the same effect.

Original grounds for establishment of Beershops.

Opinion of Lords that the Beershop system has failed.

Your Committee have already adverted to the connexion of beerhouses with crime. In the Report on the Sale of Beer Act, brought from the Lords, 30 May 1850, their Lordships state that—

"It was already sufficiently notorious, that drunkenness is the main cause of crime, disorder, and distress in England; and it appears that the multiplication of houses for the consumption of intoxicating liquors, which, under the Beer

Report of Lords, 1850, on Beer Act.

Act, has risen from 88,930 to 123,396, has been thus in itself an evil of the first magnitude, not only by increasing the temptations to excess, which are thus presented at every step, but by driving houses, even those under the direct control of the magistrates, as well as others originally respectable, to practices, for the purpose of attracting custom, which are degrading to their own character, and most injurious to morality and order.

Driven to attract custom by practices injurious to morality.

There are numerous beerhouses well conducted.

Your Committee fully concur in the further statement of their Lordships, that notwithstanding the general concurrence of testimony against beershops, "there are highly rated houses under the beershop licence, in London and other places, kept by parties of respectable character, conducted with propriety, and even advantage to the neighbourhood, and which furnish a valuable accommodation to the middle and working classes." This is confirmed by the Superintendent of the Southwark Division of Metropolitan Police, who says :—"As far as my experience goes, I think the beerhouses, taking into consideration that they are subject to more stringent rules with respect to closing, are equally as well conducted as public-houses, that is, so far as my own immediate district goes. It should be borne in mind that beerhouses are necessarily resorted to by a lower class of persons than the generality of public-houses" (5092).

Licences in hands of brewers.

Liverpool.

Brighton.

Norwich.

Yarmouth.

Lyme Regis.

Ipswich.

On the matter of advances by brewers, Mr. Robertson Gladstone, one of the Liverpool borough magistrates, states, that the brewers of Liverpool have become possessed of a vast number of licences in their own hands (983). Mr. Partridge, of Brighton, holding the commission of the peace for Sussex, Herefordshire, and Monmouthshire, states, that the great evil of the present system is, that the publicans are completely under the thumb of the brewers; the houses belong to the brewers, who put people in to hold them (5742, 5743). Mr. Palmer, recorder of Norwich, gives the number of houses in Norwich, bound to each brewer, showing that, of 566 licences, but 18 are free to deal with whom they please (1845); and at Yarmouth, of 182 houses, 105 are bound to brewers (1845); at Lyme Regis, of 124 who sell beer, wine, and spirits, 100 are tied to particular brewers (1867); at Ipswich, where there are 125 licensed houses, 102 belong to brewers (1876).

Shields.

Mr. James Mather, himself a wine and spirit merchant at South Shields, states that there are 191 licensed houses in South Shields, of which 123 are tied to take their supplies from brewers and spirit-merchants, and there are 48 beerhouses, nearly all so tied (9510).

London.

As to London, the fact of the great brewers, either owning the public-houses or having mortgages upon, or holding the leases as security for loans, is sufficiently notorious to need no confirmation. It would seem that money is not even always really advanced. Mr. M'Culloch states that "a man who occupies a house called the York Hotel, in Gordon-street, Islington, for four years had been applying for a licence for that house, and had been refused until an appeal this year. There has not been a single house built in the neighbourhood since he first applied for a licence; the inhabitants are less numerous than they were before. On the appeal this year, he got his licence. He went into that house (it is a well fitted-up house) as a beerseller, with the understanding with the brewer that he should pay 100 *l.* a year rent, and in the event of procuring a licence he should pay 20 *l.* a year more; that makes 120 *l.* rent; and he should also pay down to the brewer 3,000 *l.*, or become liable for the amount, and pay five per cent. upon it (4490). His rent was increased 20 *l.* a year, and he became indebted to the brewer for the sum of 3,000 *l.*; not one fraction of that money had ever passed between them (4411). The brewer holds his lease as security (4412).

Report of Committee of 1817 on subject of brewers and licences.

The Committee appointed to inquire into the police of the metropolis, and the execution of the laws relating to licensed victuallers, went very fully into evidence upon this subject, and in their reports dated May 2d, 1817, observe upon it, "that a practice seems to have gradually grown up, and to have increased to a great extent, within these few years, for brewers to become the owners, purchasers, or equitable mortgagees of leases of public-houses; nearly one-half of the victualling-houses in the metropolis are held in this manner; and Your Committee think, that under the confined and restricted power, which the public at large possess, of employing their capital in the trade of victualling-houses, this system is very prejudicial to the interest of the community at large." The community would not, however, suffer if there were no such restriction, and only by

by abolishing it is it possible to reach the evil. Brewers and publicans must of course be left at perfect liberty to make advances, and receive them as they may find profitable.

Beerhouse-keeping requires but little capital; many are attracted to it, and overstock the trade, by the hope that it will lead to a licence, and, though disappointed and unsuccessful, continue in the business. The trade of a publican is looked upon as a peculiar privilege (2923); but in proportion as the magistrates endeavour to keep down the number of public-houses, does the number of beerhouses increase.

The hope of obtaining a licence increases number of beershops.

In Liverpool, where the magistrates have readily granted licences, there are 1,450 public-houses and 1,000 beershops; and in Manchester, where the magistrates have so rigidly restrained the increase of public-houses, that they were actually reduced from 490 in 1844 to 481 in 1852, the beershops have risen from 850 in 1844 to 1,460 in 1852. But the beershop is not only the first attraction from its cheapness, and the hope of a licence to numbers to enter upon the trade in intoxicating drinks, who, were the whole upon the same footing, would for want of capital never attempt it, but it forms a mischievous refuge for those who have failed discreditably, or been deprived for offences more or less serious of their licences as publicans. Mr. Stinton says, "I recollect a case in which the magistrates of Birmingham stopped a licensed victualler's house; they gave him special notice that he had bad company in his house, and at last they stopped the licence. What did he do? He went to the Excise Office and took out his licence, and snapped his fingers at the magistrates, and carried on ten times worse" (3813). And another witness states, that "beerhouses are often kept by persons who have lost their licences as publicans; sometimes they are kept by discharged convicts" (4040).

The fewer victuallers the more beershops.

Publicans who have forfeited their licence open beershops.

In view of these facts, Your Committee feel justified in recommending that the distinction between beershops and public-houses, both as to the extent of the licence and the manner in which it is granted, shall be discontinued; and they are fortified in the recommendation by the opinions of persons of considerable experience in the working of the existing system. Mr. John Wood states, "that he does not see any reason whatever for the distinction between public-houses and beer-houses (515), and that with regard to licensed victuallers, there should be one general licence allowing them to sell beer, spirits, and wine," (389). Mr. Daniel Whittle Harvey: "Except as to reference to character, and other circumstances, which the magistrates or the law might prescribe as the best mode of preserving public order and social regulations, would allow any man to sell malt liquor or spirits" (9340–1). Mr. Nathaniel Palmer, recorder of Norwich, is of opinion "that every man who wants it should have a licence," (1826). Mr. William Partridge "thinks that every respectable rated inhabitant should be entitled to a licence to carry on the trade of a licensed victualler" (5760). Mr. Robertson Gladstone "is of opinion that the trade would better regulate itself if it were thrown open to any man who had not been convicted of an offence, on giving proper security to the public for his good conduct" (1015).

Committee recommend the distinction between beershop and public-house licences to be discontinued.

Opinions in favour of the clause.

At a meeting of the Liverpool Bench of Magistrates, held 24th January 1853, it was resolved, "That all houses for the sale of ale, beer, spirits and wine, should be exposed to free competition in trade, imposing only those restrictions which may be deemed expedient for the purpose of police regulation." (*See* Appendix.

The Honourable Frederick Byng states, that "his idea of licensing is, that any man should have a licence on sufficient evidence and good security for his good conduct, under certain regulations" (9207.)

It is objected that this freedom of obtaining licences would entail serious losses upon existing publicans. Mr. Alderman Wire, solicitor to the Licensed Victuallers' Association, says, "I should say, that the licensed victuallers, as a body, throughout the country, and my impression is that the public concur in that opinion, for reasons that the licensed victuallers do not concur in, are opposed to any change whatever. They think that the present laws, which were exceedingly well considered in the year in which Mr. Estcourt brought in his Act, have worked beneficially for the public, where the attention of the magistrates has

Objections to abolition of distinction. Alderman Wire.

been particularly directed to their administration; that they have preserved temperance; that they have protected the revenue; and that they have afforded great accommodation to the public. Now, if I might be permitted to say one word as to the largeness of the interest affected by these laws. We say there are 6,000 licensed victuallers in the metropolitan district, and it is impossible to put those houses down at less than 1,000 *l.* each in value. Then, if you see the number which would be thus affected, you see the largeness of the interest you are about to deal with and destroy by any alteration of the law. That interest in the metropolitan district alone would represent 6,000,000 *l.* of property. Yes; I use the word 'destroy' advisedly, because any alteration of the law, by throwing the trade open, would destroy the interest; and would, therefore, so far infringe on the capital and industry of 6,000 people, who have depended on the law as it is now in existence" (10065–6).

The apprehensions groundless.

Your Committee do not see reason to entertain these apprehensions. The same fears that are now expressed as to opening the trade of public-house-keeping were as eagerly uged at the time against the establishment of beershops. Several of the leading brewers deprecated the mischief that would be brought upon publicans in common with themselves, and entered into calculations to show that general ruin was inevitable. Your Committee, however, find that higher sums were not at any time paid than now for the goodwill of public-houses. The facts stated by Mr. Alderman Wire, that "the public-house interest in the metropolitan district alone represents 6,000,000 *l.* of property, and that there are 6,000 licensed victuallers in the district" (10065–6), are in themselves sufficient evidence that the interest has not suffered to any ruinous extent from the establishment of beerhouses, and this would seem to be confirmed by the fact that, although there are 41,547 houses licensed under the Beer Acts, there are 59,963 licensed victuallers, with the advantage, as against any new competitors, that they are established in the best situations, and have capital and connexions in their trade.

Publicans will not suffer.

Existing licences not to be interfered with.

Your Committee, however, do not propose to place those who may hereafter become publicans upon the same footing with those already holding licences. It seems desirable that in future a higher rate of duty shall be paid for a licence, and more stringent regulations enforced as to character and sureties. It is intended that existing beershops shall be suffered, as they now are, to take out separate licences for drinking on and off the premises. It will not be possible for any new beershop to obtain a licence without payment of a much more considerable sum than existing beershops will have to pay; it will therefore be only the better class of them that will become spirit sellers; whilst the more stringent supervision of all places of public refreshment, in common with places for the sale of intoxicating drinks, which Your Committee consider it essential to have established as a part of the new system, will tend to prevent the unlicensed sale of intoxicating drinks, and to suppress those discreditable practices which, in many localities, give an advantage to dishonest traders.

Sale of drinks without licence will be checked.

Population, not rating, to regulate payment for licence.

It seems to Your Committee advisable that, under the new system of licensing, the sum to be paid for a licence shall not be varied by the amount at which the premises are rated, but shall depend solely upon population, that being the more simple, certain, and equitable test.

Sureties to give bond, and penalties to be stringently enforced against them.

Your Committee also consider it esssential to the effective working of the system that penalties against the sureties shall be strictly enforced, and that before granting the licence the position and character of the sureties as well as the applicant, shall be fully inquired into. On this subject, Mr. D. W. Harvey says, "I consider the bond to be no slight test of character; if a man who proposes to have a house licensed can find two persons who will be his sureties, which, in fact, means that he will conduct himself according to law, it is no slight testimony to the character of the man; but, of course, the law will provide against a series of penalties. After a man shall have incurred two or three penalties, there ought to be a very summary mode by which he can be divested of the licence" (9863). Fines are so frequently paid for the parties, and are so usually inflicted at the lowest amount provided by the law, that Your Committee would suggest that the penalty for certain offences against the law, or tenor of the licence, shall be, instead of a fine, the closing of the house for any period from one day to a month; such a mode of punishment would

Instead of fine, licence in certain cases to be suspended.

would have the advantage over fines, that it would be publicly known, and would give the brewers, and others serving the house, a direct interest in the character of the proprietor.

Advantage of suspension over fine as a punishment.

Your Committee forbear to enter at length upon the Evidence condemnatory of the exercise of the magisterial power in granting licences. The existence of a suspicion that licences are withheld and granted capriciously, and that the influence of builders and brewers is more potent than either the character of the applicant, or the requirements of the public, in procuring a licence, whether well founded or not, might afford sufficient ground for relieving the magistracy from duties, which, however great their desire to do so, it has been impossible for them satisfactorily to discharge. But when the sole duty to be performed is to investigate the character of the applicant, and the validity of his sureties, the magistracy seem the most fitting authority to be entrusted with the duty; and there is the advantage in their being so entrusted, that they will also be the tribunal for the enforcement of the law and conditions of the licence.

Magistrates to license.

Inquiry to be limited to character of applicant and validity of sureties.

Your Committee in considering the question of the existing state of the law in its bearing upon public morals, have to observe, that there are no sufficient statistics to enable the average amount of drunkenness in the United Kingdom to be stated with any approach to accuracy.

Bearing upon public morals of regulation of sale of intoxicating drinks.

In the majority of provincial towns the number of the police force is so small that it is impossible they should take cognizance of any cases of drunkenness not connected with riot or disorder; whilst amongst the beer-shops in rural districts every house may have its cluster of drunkards who, for drunkenness, at least, are never included in any return.

Statistics of intemperance defective.

The Parliamentary Paper, No. 541, ordered by the House of Commons to be printed 27th May 1853, furnishes a proof that police reports cannot be depended upon as evidence of the amounts of drunkenness. The population of Liverpool is 376,065, that of Manchester, 316,213; the cases of drunkenness brought under the notice of the police in Liverpool are stated at 18,522, or one to every 20 of the population; whilst in Manchester the cases for the same period are returned at but 787, or one in 104. Your Committee do not undertake to say whether the amount of drunkenness in Manchester bears as high a ratio to the population as in Liverpool, but the smallness of the numbers upon the police return is at once accounted for by the fact, that if a drunken person be not positively disorderly, it is the duty of the Manchester police to pass them from one to the other until they are seen home. However drunk and incapable they may have been, they do not appear upon the return, and the police have further the strong inducement, even in disorderly cases, not to lock up drunken persons, that they have to appear against them during their leisure time, and "if every disorderly person found at night were brought before the magistrate next morning the police would have very little rest" (1864-6).

The evidence before the Committee is sufficient to show that the amount of drunkenness is very much greater than appears upon the face of any official returns.

There are in England and Wales 89,866 public-houses, and 41,547 houses licensed under the Beer Acts. There are, besides, many places where beer is sold without a licence. "Some of them, under cover of the law permitting beer at 1½*d.* a quart to be sold without licence, sell also porter and ale" (6882). "At the single town of Fazeley, in South Staffordshire, there are about 30 houses that sell porter, ale, and beer indiscriminately; they are private houses, known as Bush Houses, from their having a bush over the door as a sign to their frequenters" (4838. 6840). At Oldham, in Lancashire, "there are from 400 to 500 such places, known there as Hush Shops, where they brew their own beer and have each their own known customers;" at Bolton, Preston, in Hampshire, and in London similar practices are more or less prevalent (3664 to 3679). To what extent others may be spread over the country Your Committee have not evidence; there is, however, sufficient to render it probable that the total number of houses throughout the kingdom engaged in the unlicensed sale of beer and other intoxicating liquors is very considerable.

Sale of drinks without licences.

Drunkenness in London.

There are no doubt many publicans and beershop-keepers who exercise the utmost vigilance to prevent drunkenness on their premises, and to keep bad characters out of their houses, and who spare no pains to conduct their business with respectability; but the temptation is strong to encourage intemperance, and a vast number of the houses for the sale of intoxicating drinks live upon drunkards and the sure progress of multitudes to drunkenness, whilst numbers of them are the habitual haunts of the idle and abandoned, of thieves, prostitutes, and the adepts and learners of crime. A witness who for three or four years acted as a temperance missionary in St. Giles's, states that in that district "he has seen respectable persons taken into public-houses in a partial state of inebriation by men whom he knew, and the police knew, to be common thieves; he never knew the publicans to remove those people." He has known women to go in with young children, and get drunk at the bar, so that on coming out they have fallen down with the children in their arms; the police dare not interfere; it was not the duty of any one to remove them from the public-house as long as they had money to spend" (1203. 1208). The same witness states, that "he lately visited in the evening the whole of the public-houses in the New Cut, from Blackfriars-road, numbering about 16. They were all full of people drinking; in one house he counted 50 persons drinking; they were serving as fast as they could. Amongst the number were women with children in their arms; upon one butt there was an infant fast asleep, and the father and mother were drunk by the side; against the counter was a little child, about four years old, fast asleep. At one house the police were obliged to stand with their staves to prevent the people from pushing the doors in, as the publican inside and his servants drove them out to prevent their getting more drink, and to enable the public-house to be closed at the time prescribed by the Act of Parliament" (4737 to 4739).

Neither the publicans nor police prevent it.

Extent of drinking in Manchester.

Another witness states "that in a single street in Manchester (Deansgate) there are, besides beershops and public-houses, 28 spirit vaults; and that every Saturday there are to be found at any hour throughout the day an average of 550 persons drinking in those houses at the same time; one house alone averages 1,500 visitors in the day" (3702). Another witness gives as the result of an inquiry extending over 1,456 spirit vaults, beerhouses, and public-houses in the same city, "that they had on a single Sunday 212,243 visits; and that 22,232 of the calls were by children, some of whom went to drink on their own account, some to fetch drink, and some were bad characters." In evidence of the neglect of children, as the result of the drinking habits of their parents, a London operative states that "some of his fellow-workmen, and who are in the receipt of moderately good wages (1048), are to be found in the public-houses on Saturday and Sunday nights, whilst their children are inmates of a ragged school, and some of them abandoned thieves" (1036).

Connexion of intemperance with crime.

Mr. Thomas Wright of Manchester, who for 16 years has devoted himself to visiting gaols, and endeavouring to reform criminals and find them the means of living on their discharge from prison, speaks strongly of the intimate connexion between intoxicating drinks and crime. "He has found that the majority are criminals from their youth (2126); that there is a large class who give themselves wholly to drinking who send their children out begging, and from begging to pilfering for them. All the children in gaols speak of the neglect of their parents (2132); he has never found any cause for that neglect but drunkenness (2141); 18 out of 20 of our criminals are from that class" (2124). "Amongst the convicts at Portland he could not find two out of 20 who could say they had had a good mother; the mother was generally a woman who had neglected them in childhood and youth from drunkenness."

Statements of criminals.

"Of 27 men convicted of murder with whom he had conversed there was but one who said that his mother was a good woman (2127, 2128). There is a race of women in the world who do not care where the money comes from so they can get it for drink (2142). Some of them encourage their children to be prostitutes; he has seen them in the gaols as early as 10 years of age, and conversed with them (2146-7); they all tell of the drunkenness of their parents, especially their mothers" (2151). "One lad spoke of his mother sending him out begging, and from begging to pilfering; she did not care where she got the money if she got it for drink; that child was seven times in gaol, and he was only 12 years of age" (2140).

Children forced to crime by intemperate Parents.

Mr.

Crimes planned and stolen goods disposed of at places for the sale of drink.

Mr. Robertson Gladstone, referring also to the connexion between intoxicating drinks and crime, states that "the subject has so frequently come before the magistrates at Liverpool, that they know, that in beerhouses, as well as in licensed public-houses, many thefts and robberies and other crimes are arranged and preconceived" (1069). "In his own experience he has known several prisoners in gaol who after they have been sentenced and convicted have told him where all their plans were arranged, and those beerhouses were generally the places" (1074). And this is confirmed by the head constable of the borough, who returns "the number of beerhouses at which thieves assemble at 32, and at which thieves assemble and dispose of the proceeds of their robberies at 57."

Evil of public-houses and beer-shops in secluded places.

Captain Harris, commanding the constabulary of the county of Hants, states, that "in secluded and solitary places of the county there are beerhouses which sheep-stealers and others frequent until respectable people have gone to rest, when there is more facility for committing offences. It has frequently been the case that sheep-stealers have been apprehended in such houses and afterwards convicted" (7051. 2. 4). The Rev. John Clay, who for 32 years has been chaplain of the Preston House of Correction, and has laboured incessantly in reforming criminals, and tracing the courses of crime, states, "that at least 35 per cent. of crime must be set down as the direct effect of drinking in beerhouses and public-houses" (6016); and he further gives as the result of his experience, "that prisoners, after their discharge, if they only keep sober, keep out of prison" (6327). This return to crime, as the result of drunkenness, is also referred to by Mr. Thomas Wright, who states, "that a child let loose from prison will return to bad habits unless he is removed from his parents" (2140).

Necessity to control the sale of intoxicating drinks.

Your Committee do not feel it necessary to follow further the evidence upon the connexion of intoxicating drinks with crime; it has, directly or indirectly, been the subject of inquiry at different times, and has been reported upon by numerous Committees of Your Honourable House, who bear unvarying testimony both to the general intemperance of criminals and the increase and diminution of crime in direct ratio with the increased or diminished consumption of intoxicating drinks. It is universally admitted that the great majority of criminals are intemperate, and that, as might be looked for from the hours at which their unlawful pursuits are carried on, their idle and lurking habits, their necessity to meet their associates without being open to suspicion, and their rapid alternations of abundance and want, the lowest class of public-houses and beershops are their most frequent haunts. The evidence already referred to (and which, coming from persons of such ample experience, is entitled to especial weight) goes farther, and tends to establish that whatever individual propensity there may be to crime is, with few exceptions, brought into activity by habits of intemperance; that children are driven forth to crime to feed an appetite for drink that bears no control, and knows no natural affection, and that even criminals cease from crime if they cease to be drunken. It must always be matter of extreme difficulty in any question of social statistics to separate direct from collateral causes, and it has been considered open to dispute whether in all cases the increase of crime were properly attributable to an increased consumption of intoxicating drinks, or whether the increase might not in both cases be traceable to some common source. With regard, however, to that portion of the question more particularly belonging to the inquiry of Your Committee, the necessity for a more efficient control of all places for the sale of intoxicating drinks, there arises no such difficulty. The entire evidence tends to establish that it is essential that the sale of intoxicating drinks shall be under strict supervision and control; and so much good has resulted from the inspection of common lodging-houses by police selected for that particular duty, that Your Committee would strongly advise the adoption of the same system, where possible, with regard to places for the sale of intoxicating drinks, which would thus be brought under constant and uniform supervision.

Committee recommend appointment of inspectors of public-houses.

The Maine Liquor Law.

It need not be matter of surprise that in view of the vast mass of evils found in connexion with intemperance, it should have been suggested altogether to prohibit the manufacture and sale of intoxicating drinks. Laws to that effect are in force in the States of Maine, Massachussetts, Rhode Island, Vermont, and Michigan, in the United States; and Your Committee have had before them

several zealous promoters of an association established to procure the enactment of similar laws in England.

The testimony is universal that the greatest amount of drinking takes place on Saturday night, and during the hours that the houses are allowed by law to be open on Sunday.

Extent of Sunday drunkenness.

In Manchester an inquiry conducted with great care, "extending over six successive Sundays, and including 159 spirit vaults, 256 public-houses, 1,041 beerhouses, gave as the average number of visits on Sunday to the 1,456 houses, 119,533 men, 70,478 women, and 22,232 children; a total of 212,243" (1992. 1996). "These were visits; the same person may have paid more than one visit to a house, and may have visited several, but if it be even taken for granted that every person paid three visits, still the number would be over 70,000, or between a fourth and fifth of the entire population; this attendance was from half-past 12 to three in the afternoon, and from half-past four to 10 at night" (1996). And a witness who was one of those employed on the above inquiry, states "that there are a great many people drunk in the streets of Manchester on Sunday" (2045)

Numbers visiting public-houses in Manchester on Sunday.

Drinking in low neighbourhoods in London, on Sunday.

Mr. Weylland, a missionary in connexion with the London City Mission, and who has been appointed to visit public-houses, beershops, and coffeeshops, chiefly in the parish of Mary-le-bone, states that "he generally finds the public-houses and beershops, especially the latter, and the gin-palaces, crowded of a Sunday evening" (8). "In low neighbourhoods the public-houses are clustered together; in five houses in Lisson Grove, of which two were beershops, there were 222 persons drinking, and about 30, two or three of whom were women, were drunk" (18. 24, 25.) The same witness gives it as his opinion, based upon his own investigations, and inquiries amongst publicans themselves, that "there are more persons in the public-houses and beershops of Mary-le-bone, during the hours of divine service on the Sunday evening, than there are in all the churches and chapels in the parish. On the night of the census of 1851 there were 17,805 persons in those places of worship, and from nine to eleven there would be 20,000 persons in the public-houses and beershops," (10, 11. 14).

A greater number in drinking houses than in the churches, Mary-le-bone.

Same as to Bolton, Lancashire.

A return of the number of persons found in 12 beerhouses, and the like number of public-houses in Bolton, between eight and nine p.m. on Sunday evening, 4th June 1854, serves to corroborate this statement: "There were in the public-houses, 231; beerhouses, 195; other houses were much more numerously attended than those given in the return; but taking these as an average, the total number of persons in the 326 public-houses and beerhouses in the borough would be for those two hours on the Sunday, 5,651, being nearly equal to the number of persons present in all the places of worship in the borough on the evening of Sunday, March 1851, when the census was taken" (*see* Appendix.

Drunkenness on Sunday exceeds that of any other day.

Another witness states, that "in every part of the metropolis where there is a thick working population, the people (on Sundays) wait at the corners to rush into the public-houses directly they are opened" (2757). In one district he placed himself in a position that "he could see three public-houses, and the rush into those houses was frightful" (4754). The Rev. J. I. Baylee, a clergyman of the Church of England, states "his conviction, that the mode in which public-houses are at present open on the Sunday is one of the greatest means of demoralization, particularly as affecting the working classes" (275). "The proportion of cases taken into custody for drunkenness on the Sunday far exceeds the proportion on any other day in the week" (919). And Mr. Card, who has given much attention to the subject, states, that "in agricultural districts the Sunday drinking in beerhouses is very bad; the people spend the whole afternoon in them" (1906).

Good effects of closing public-houses during part of the Sunday.

Your Committee have had letters handed in by the Rev. Mr. Baylee, received by him from the chiefs of police at Birmingham, Hull, Derby, Liverpool, and Bradford, showing that considerable good has resulted from the 11th & 12th Vict. c. 49, requiring the public-houses to be closed during the hours of Divine service.

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The superintendent of the borough police at Bradford, writes, "In reply to yours, I beg to inform you that my residence in Bradford commenced after the passing of the Act for closing public-houses, &c., during a portion of the Lord's Day, came into operation, therefore I cannot speak of its effects here; but a portion of my eleven years' service in the Liverpool Police Force was before the Act came into operation, and truly the change was wonderful, and that it is a most beneficial law there cannot be a question; on the contrary, there is an abundance of proof of it. For two years I was located in that portion of Liverpool called Vauxhall-road, a district very similar to Lambeth-cut, and the scenes I there witnessed from three to six o'clock on Sunday mornings I shall never forget. The publicans usually closed from 12 at night to three, A.M., in order to clear out their drunken company, and to enable them to get their places of business set a little straight for Sunday; those parties retiring from the public-houses at 12, more or less intoxicated, seldom thought of going to bed for the night, but just a little repose and sleep to fit them to commence their intemperate habits again at three o'clock; then followed the most horrid scenes of drunkenness and riot, such as no pen can describe; but so soon as the new regulation was put in force the Sunday morning riots and debauchery were at once stopped, and by two o'clock the streets became quiet" (232). Improvement at Liverpool.

"A special return by the chief constable made to the court of quarter sessions at Salford, 9th April 1849; showing the number of persons apprehended and summoned for drunkenness on Sunday, in the several divisions of the county, for six months prior to the passing of the Act 11 & 12 Vict. c. 49, and also for six months subsequent thereto, and the effects thereby produced, according to reports from superintendents of divisons," gives the total numbers apprehended and summoned for drunkenness, in the 16 divisions, in the six months prior to the passing of the Act, at 694, and in the six months subsequent to the Act (507). The remarks of the superintendent of the several divisions, with one exception, speak of a very marked improvement as the result of the closing (*see* Appendix. Improvement general throughout Lancashire.

A witness states that "when the houses were open on Sunday many used to go out, intending only a walk, and to get treating and get drunk, which now they do not do" (1311, 1312). Several witnesses have given evidence to the same effect. A mechanic states that "the working classes have become much more orderly, and demean themselves better than they used to do, on account of the closing so far of public-houses on the Sunday" (895). Improvement in London.

Others go farther, and recommend that the houses should be closed throughout the entire day. A licensed victualler, who keeps his own house closed on the Sunday, expresses the opinion that "to close the houses on that day would be one of the greatest boons that could be given to the working poor" (493). The Chaplain of Preston Gaol states that "almost all the labouring classes there would wish them closed" (6303). The Rev. J. Baylee is of opinion that "the working classes would rejoice at the restriction, that drunkards would be glad to have the temptation out of their way, and that there is scarce a woman who is not in favour of the closing" (249). The Rev. Mr. Clay is of opinion, as the result of a close acquaintance with the working classes, that "the labouring man is a mere child; if he were to see the door fastened, he would be content to go away" (235); and Dr. Lees, of Leeds, who has for many years exerted himself in the instruction of the people, says "the policy of the working classes is to avoid temptation, resist it they cannot; the appetite for strong drinks is of such a peculiar physical and moral over-riding nature, as to destroy all their best impulses" (4239). Proposal that public houses and beershops shall be closed all day on Sunday.

Large numbers of the working classes, however, display something more than mere passiveness with regard to the Sunday closing. It is stated that "about 270,000 signatures have been obtained to a declaration in its favour, a large proportion of which are those of working men" (252). Mr. Card, treasurer to the United Kingdom Alliance, an association organised to promote the enactment in England of a law similar to that of Maine, in the United States of America, prohibiting altogether the manufacture and sale of intoxicating drinks, states that "he has inquired as to the opinion in large towns about closing on Sunday, and thinks there are hardly two opinions amongst the people. It would be practicable, and it would tend greatly to diminish drunkenness." Dr. Working men in favour of the proposal.

The working classes wish to be kept from the temptation to drink on the Sunday.

Lees further states, that "during the last three years he has made frequent visits to the chief towns of Scotland, Ireland, and England, especially the manufacturing districts; he knows the feelings of the working classes especially, and with that feeling many of the middle ranks sympathise, to be freed as much as practicable from the temptations of the public-house; and especially to have those houses closed upon the Sabbath" (4221).

Testimony of working men to the advantage of closing places for the sale of intoxicating drinks on Sunday.

Your Committee have examined some witnesses of the working class. A carpenter and joiner, residing at Norwood, gives it as his opinion that "the general feeling with the mechanics is, that they wish the public-houses were closed altogether on the Sunday, and that their wives concur in the opinion" (731–733).

A coach painter at Brixton-hill states, that "the working classes would very much approve of the houses being closed throughout the Sunday. A man in the neighbourhood took a petition round upon the subject, and got 370 signatures. Many of the signatures were those of drunkards; the whole those of working men. The men do not go out with the intention of spending two or three hours in a public-house, but they cannot resist the temptation when they pass by, and they wish to be saved from it" (838 to 843).

"A stone potter, working at an establishment in Lambeth, at which 60 men are employed, has obtained the signatures of 50 out of the 60 to a petition in favour of Sunday closing; but though they have signed the petition, and believe the houses ought to be closed on the Sunday, the temptation is too great for some, and they still go to those houses" (1112. 1116–1124).

A foreman stonemason, resident in the Blackfriars-road, states that he believes closing public-houses on Sunday would be an immense moral advantage to the working classes (1087).

A cab-driver, resident at Gower Mews, and who for 40 years has been a hackney coach driver, states that "there are not many customers on Sunday, unless it rains in the evening; there is a great inducement for cabmen to go into public-houses when they are waiting about; they are drawn into the public-houses from their being open; they cannot withstand the temptation; but all of them he has spoken to on the subject think it would be a very good thing that the public-houses should be closed on the Sunday" (943–5). "The cabmen would suffer no inconvenience in consequence of their closing; those who come out on Saturday night at 10 o'clock provide themselves with a bottle of beer, or what they want, and put it into the boot of the cab, and they could do the same thing on Sunday if they were out" (929). "Since the passing of the last Act there have been many licences taken out for six-day cabs; they do not ply at all on the Sunday; most of the drivers express the wish that the public-houses were shut on Sunday" (970).

Public meetings in favour of closing on Sunday.

The attention of Your Committee has also been called to some more general expressions of opinion upon this subject; it is stated that "public meetings, recently held at Yarmouth and Stockton-on-Tees, were unanimously in favour of Sunday closing" (249).

"A public meeting held in the City Hall, Manchester, at which several merchants and tradesmen were present, and which was very crowded, chiefly with working people, adopted without any dissentient a petition, which, signed by the chairman on behalf of the meeting, has since been presented to your Honourable House for the entire closing of public-houses on the Sunday" (2079–2084).

Number and importance of such meetings.

It is given in evidence by Dr. Lees, that "he has within the last six months attended at least 40 public meetings in all the chief towns in the North; some of the meetings have been of a very important character, at least half of them have been presided over by the mayors of the several towns. There were meetings at Waterford, Belfast, Dundee, Dumbarton, Carlisle; they were all public meetings, and there was not at any of them the slightest opposition to the proposal for closing the public-houses on the Sunday" (4235, 4236).

A meeting of not fewer than 20,000 persons has been held in the Cloth Hall at Leeds, at which the mayor presided, and declared the resolution in favour of Sunday closing carried by a large majority; parties who were present state that there were at least two to one in favour of closing; and at a subsequent meeting at the Music Hall, held in the evening, open to every one, and which

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is stated to have been crowded to excess, there was but one hand held up in opposition to the resolution for Sunday closing" (4221. 4223. 4231).

Your Committee have also had evidence of a growing opinion amongst publicans themselves in favour of closing.

Opinion amongst Publicans in favour of closing all day on Sunday.

Mr. Wm. Howarth states that at "Manchester there is a petition in course of signature by the publicans themselves for Sunday closing; they want a day of rest as well as others, and would be very glad if the houses were closed" (2036). Mr. Weylland states that "of 125 publicans and beershop-keepers, chiefly in the parish of Marylebone, 40 signed in favour of entire closing on the Sunday; 36 expressed their willingness to sign it, if they were permitted to open for two hours in the middle of the day to supply the public with the necessary articles of consumption; many of those expressed an opinion that they ought also to open for one or two hours in the evening; 14 said they belonged to the Licensed Victuallers' Protection Association, and they intended to leave the matter entirely with them; 34 were opposed to the petition on private and public grounds. One licensed victualler refused to sign because of the exception in favour of *bonâ fide* travellers and lodgers. He was of opinion that no intoxicating liquor ought to be sold on a day set apart for Divine worship" (38).

Signatures of publicans to a petition to that effect in Marylebone.

Mr. Timothy Maber, who for 28 years has carried on business as a publican in Islington, "is of opinion that it would be advantageous to publicans to have their houses closed on Sunday" (293). "There is a feeling that if they were closed the trade would be more respectable" (299). The matter would arrange itself in a month (315); "there would be very little loss to publicans, and great benefit to the public" (322.) A publican who a couple of months since gave 7,000 *l.* for the goodwill of his house has signed a petition for Sunday closing (311). He took a petition round in his own neighbourhood, and 19 out of 24 of the landlords on whom he called signed in favour of closing the houses entirely on Sunday (295). He and a neighbour a few doors off have closed their houses on the Sunday for the last 10 years (297).

Publicans who close on Sunday.

Mr. Henry Glass, a licensed victualler in the Hackney-road, keeps his house closed throughout the Sunday, and has done so for the six months he has had the establishment (439, 440). It was formerly kept open on Sunday; he purchased the goodwill; is doing a larger business than his predecessor (501. 504); his customers are persons from the neighbourhood, and comprise a large body of workmen; he hears them all speak in high terms of the closing (445. 449). There is a beerhouse close to him that is also closed (444).

Mr. R. J. Chamen, also a licensed victualler, carrying on business in Tottenham Court-road, and keeping his house closed on Sundays (578. 580), states "that possibly the first Sunday or two he lost a little, but it was made up after; all who were his customers before are customers now" (585. 587. 591).

Mr. Henry Wren, superintendent of police at Merthyr-Tydvil, where, with a population in the town and immediate neighbourhood of 100,000, there are 208 licensed victuallers, and 298 beerhouses, and where, from actual observation, "he estimates, that from eight to 11 o'clock on the Sunday evening, there is an average number of 22 persons in each licensed victualler's, and of 18 in each beershop, states that a petition for Sunday closing has been numerously signed, not only by working men, but, with one exception, by the whole of the publicans and beershop-keepers. If the law were general they would prefer the closing, in order that they might obtain rest like other tradesmen" (2858 to 2878).

Your Committee find that it is the practice of such publicans as close on the Sunday, and there seem to be many who do so throughout the country, to provide their customers with stone-bottles and jars in which to take their beer home, well corked, on Saturday night for Sunday use. The best evidence that the practice is found to answer is, that they, none of them, speak either of complaints of their customers or loss of custom. Mr. Chamen states that "if it is well corked down, and the bottle kept standing on the cork so as to keep it air-tight, the beer will drink equally well on the following day" (591).

Several witnesses express the opinion that closing the houses throughout the entire Sunday would be productive of great inconvenience. Mr. Homer, a licensed victualler, and wholesale wine and spirit merchant in the city of London,

Opinion of Publicans in opposition to Sunday closing.

London, states that, he believes such a measure could not be carried out, "a large body of the people would be against such a measure" (3889). Mr. Joseph Stinton, "Chairman of the United Towns Licensed Victuallers Association, comprising Ashton-under-Lyne, Birmingham, Bristol, Bridlington, Coventry, Derby, Hull, Halifax, Huddersfield, Leeds, Leicester, Loughborough, Banbury, Bath, Bradford, Exeter, Liverpool, Leamington, Lichfield, Manchester, Macclesfield, Nottingham, Northampton, Oldham, Preston, Portsmouth, Plymouth, Sheffield, Shrewsbury, Stockport, Staleybridge, Sudbury, Wolverhampton, Walsall, Warrington, and York" (3696), states that, "in all these towns the publicans are strongly opposed to closing the public-houses on Sunday more than the law at present lays down" (3702). It is scarcely possible to carry any enactment into effect opposed to the convenience or ordinary habits of any large number of the people. The law seems to be already very extensively evaded. The same witness states that the law is very much broken on the Sunday morning in all towns. He has made inquiries, and finds that "the people get into the beerhouses and into the licensed victuallers' houses, and are hid by the landlords" (3725. 3729. 3732).

Mr. Homer states that, "There is a great deal of drunkenness on Sunday morning, and I believe not only the beershops but some licensed victuallers infringe the law on Sunday morning" (3885).

Evasions of the existing law as to closing on Sunday.

It is stated by another witness, that "Drunkenness on the Sunday takes place chiefly in the beerhouses, where there are concealed rooms or premises at the back, where the drunkards are harboured out of sight of the police" (6334).

One of the superintendents of police in the return already referred to, reporting upon the operation of the Act closing the houses during the hours of the morning and afternoon service, states that "Habitual drunkards are in the habit of assembling at private houses (having previously laid in a stock when the public-houses close), where they continue drinking through the night, and, not unfrequently all next day, quarrelling and fighting. Hush-shops are on the increase."

Another witness states, that "At Birmingham the afternoon closing has never been enforced; the whole of the public-houses and beershops open at one, and remain open for the remainder of the afternoon and evening."

Public-houses are closed all day on Sunday in Scotland.

An Act enforcing the total closing throughout Sunday has recently come into operation in Scotland; but although Your Committee have had evidence of its beneficial effects, there has not yet been sufficient time to test how far it will be practically supported by public opinion, or will give rise to remonstrance or evasions.

Suggestions of publicans and others as to further closing.

Your Committee are, however, of opinion that the time has arrived for some further change. Persons connected with and interested in the trade themselves have expressed a willingness to adopt an additional limitation of the hours during which public-houses may be open on Sunday. It has been suggested, as likely to meet the views of a large majority as well of the public as of persons engaged in the trade, that the houses shall be permitted to be open from one to three in the afternoon, and from six until nine in the evening, or that they shall remain closed until five in the afternoon, and shall be open from five to ten at night.

Mr. William Speechly, a licensed victualler in Southwark, "opens his house at one, closes at five, and does not open again until after eight. He considers the one o'clock closing has done a good deal of good; it would do more if they were closed till five; the people would be obliged to provide their families with dinner, and be obliged to stop at home and partake of it, if the public-houses were not open at all till five (4141). There are many publicans who would not be averse to closing their houses till five on Sunday" (4160).

Several witnesses speak of the advantage that would be derived from prohibiting drinking on the premises on Sunday, which would prevent mere tippling, without interfering with the home habits of the people. The Rev. Mr. Thornburgh, minister of the temporary church of St. Thomas, at Kennington, says, "if you allow people to congregate on Sunday, when they have nothing to do,

do, they will be likely to get drunk. I would not allow them to drink at the houses at all; I would have them open for one specific object, to furnish families or individuals with whatever drink they may require, to be taken away" (4095).

Your Committee are of opinion that any of these suggestions would be attended in practice with great moral advantage, and with no real public inconvenience. Selling only for consumption off the premises is liable to evasion; but there does not seem sufficient reason for allowing any places for the sale of intoxicating drinks to be open on the Sunday for more than four hours, nor for the distinction between public-houses and beershops as to the hours of closing on week days.

Opinion of the Committee that no place for the sale of intoxicating drinks shall be open for more than four hours on the Sunday.

Your Committee do not feel it necessary to pursue further the evidence upon this point; they have gone so far at length into it with the object of showing the condition of public opinion upon the subject. It is important that those engaged in the trade should be made aware that there is a rapidly-growing conviction abroad, spreading even into their own ranks, in favour of closing throughout the entire Sunday all places for the sale of intoxicating drinks.

Public-houses and beershops to close at the same hours on all days.

Your Committee cannot conclude this portion of their Report without calling attention to the fact of how few places of rational enjoyment are open to the great mass of the population on Sunday, which serve as a counter-attraction to the public-house. They have it in evidence that wherever such opportunities have been provided, they have been eagerly seized upon, and have led to the decrease of intemperance.

Places of rational recreation should be open on Sunday.

Mr. Richardson, a land and building surveyor, who for 45 years has been resident at Manchester, and has during the whole of the time taken part in every movement amongst the working classes, states that "since the public parks have been opened, the people frequent them instead of the public-houses. The sale of intoxicating drinks is prohibited in the parks by a clause in the deed of covenant, conveying them to the towns (3526). The people do not frequent the public-houses in the neighbourhood of the parks (3529); he knows, from having had to value them, that the public-houses and beershops along the line of roads in the neighbourhood of the parks do not sell for as much as before the parks were opened (3529); the people stay in the park as long as they can, and then go home (3533); there is a disposition to go to such places as the Museum and Free Library; they are not open on Sundays, but it would have a good effect to open them, and it is generally desired that they should be open" (3537, 3538). The Rev. Mr. Clay states "that such places would come into competition with the public-houses, and he sees no religious objection to their being open on Sunday" (6424, 6425).

Such places are a counter attraction to the public-house.

Your Committee have received valuable evidence on this matter from Mr. James Haughton, of Dublin, and from Sir Joseph Paxton.

Mr. Haughton, a merchant of the highest standing in Dublin, states that "in 1840 the gardens of the Zoological Society, in the Phœnix Park, were opened after morning service on the Sundays, at 1*d.* admission, with the object of attracting the people from the public-houses (2512–17). The extent to which the populace have availed themselves of the boon is shown by the fact, that from a total population of about 250,000, there were in that year (ending March 1841) 81,404 Sunday visitors to the gardens, whilst upon all the other days of the week, and including 2,387 free admissions, there were but 16,001 visitors. During the 13 subsequent years the numbers have varied considerably. The highest was in 1845, when there were 98,704 Sunday visitors; the lowest was 49,096 in 1850; whilst in the present year the numbers have been 87,325. There are no intoxicating liquors of any kind sold in the gardens (2533). The conduct of the visitors may be judged of from the circumstance, that the Council of the Royal Zoological Society were at first unwilling to accede to the request which Mr. Hamilton submitted to them to open their gardens on Sunday, lest injury should result; they opened the gardens to the poor at a low rate after six o'clock in the evening, on the summer evenings, and the people conducted themselves so admirably on those oacasions, that they had no hesitation whatever in extending the boon to Sunday, after church hours; the consequence is, that they have received a very large accession of income, and have given an immense

Good effects of opening Dublin Zoological Gardens at Dublin on Sunday.

amount of rational and innocent amusement to the people, of which they would otherwise have been deprived (2540); and after 14 years' experience, the Council, in a memorial recently presented to the Lord Lieutenant, and embodied in their Twenty-second Annual Report, state "that they have afforded to the working classes a most attractive place of rational recreation, of which they fully avail themselves, and in which they manifest a conduct so decorous as to claim still further indulgence" (2532). A letter, read by the witness, from the secretary of the Dublin Mechanics' Institution to the secretary of the Zoological Society, just after it was opened in the year 1840, places in a clear light the importance attached to the opening:

Testimony of the Council of the Zoological Society to the excellent conduct of the people.

Appreciation of the advantage by members of the Mechanics' Institute.

"Sir,—I am instructed by the Board of Directors to express their gratitude to the council of the Royal Zoological Society of Dublin, for the valuable means of improvement and innocent relaxation which they have placed within the reach of the working classes in opening their Gardens on Sundays at a premium so very low, that the humblest may (if so disposed) participate in the advantages and enjoyments they afford. May we not hope that other public institutions will follow your praiseworthy example, particularly those at whose disposal large public funds are placed? To such opportunities of improvement as your society now affords is mainly owing the intelligence, the appreciation of works of art, and that polish of manner so marked in the natives of those countries whose higher tastes and educational wants are consulted and provided for.—By order, Zechariah Dowling, Honorary Secretary and Operative Printer" (2533).

"There are in Dublin a Museum of the Royal Society, and their Botanical Gardens at Glasnevin, which are closed on Sunday; there would be no mischief done if they were open. The Botanical Gardens are an exceedingly beautiful place, and would be highly attractive to large numbers of the working classes" (2537–8).

Chatsworth being opened on Sunday prevents intemperance.

Sir Joseph Paxton states that "from three to five, and even so many as 800 persons used to come on Sundays from Sheffield to go over the house and grounds at Chatsworth (3095). They had to go afterwards to the public-houses for their vehicles, but used never to sit sotting and drinking, nor to cause disturbances (3096). About 10 years since, his Grace the Duke of Devonshire, in answer to a petition from his servants (who found the duty of attendance both on week-days and Sundays too onerous), closed Chatsworth altogether on the Sunday. Nearly the same numbers of persons as before came into the neighbourhood on Sundays, but having no longer the interest of viewing the park and the house, they used to revel at the public-houses and create great disturbances. On representation of these facts the Duke re-opened, not the house, but the park, and all the outer grounds. Since then there has been no difficulty about the public-house nuisance (3095); the people behave exceedingly well, and it has not been found necessary to employ more than two men to look after the grounds on Sunday" (3099–3102).

The working classes are ready to avail themselves of the means of improvement.

"There is a better taste growing up amongst the people (3158). If the working classes have the means, they will improve themselves on Sunday. The Kew Gardens have been open on the Sunday since last year, and a very large number of people go to them" (3152–3). The witness states further that "he has been particularly struck with the reverence which the lower classes display for anything grand or beautiful (3110). He is confident that if abundant facilities are opened to them for recreation, and all kinds of rational amusement, it will tend very much to their elevation (3109). To give a poor man, who is industrious and hardworking, and who attends for six days in the week to business, the opportunity of recreation at the Crystal Palace on the Sunday afternoon, would be doing him an incalculable amount of good (3717). The price of admission should be so low as to afford everybody an opportunity of visiting it; it should be opened about half-past one; the Directors would agree to suspend the sale of intoxicating liquors on the Sunday, and there can be no doubt that the vast numbers who would assemble would be very easily controlled, and would require very little police supervision" (3118–20–21).

Intemperance increased by closing

A working man, living in the neighbourhood of the Crystal Palace, states that "there is a great deal of drunkenness on Sunday night in the public-houses at

at Norwood; a great number of people come down to see the building during the Sunday, and stop at the public-houses, where they get intoxicated, and make a great disturbance during the evening" (763). This is precisely what, in the neighbourhood of Chatsworth, used to happen during the period the grounds remained closed.

Places of rational relaxation on Sunday.

The prevention of the admission of the public to places of rational recreation and instruction on Sunday arises from an Act of George the Second, which prohibits money from being taken for admission to any place whatever on the Sunday; the Act is evaded at several music saloons and tea gardens, &c. by the sale of refreshment tickets being made to cover a nominally free admission; and it is openly broken at Greenwich Hospital, where a fee of 2 *d.* is allowed to be taken for admission on Sunday to the hall and chapel.

Evasion of law as to places of recreation on Sunday.

Your Committee cannot but remark upon the impolicy of suffering the continuance of a law which is preventive only to those who will not stoop to devices for its evasion, and who from the excellence of their objects and the superiority of their position should, of all others, be exempt from such restrictions. The system that suffers the singing saloons of Manchester and Liverpool, and Cremorne, and the Eagle Tavern Gardens, to be open on the Sunday, and shuts in the face of all but the proprietors and those who may have free admission the gardens of the Zoological Society, and the vast and varied school of "ocular instruction," provided within the grounds and building of the Crystal Palace, is scarcely consistent. But there are other places of public instruction, the complete closing of which throughout the Sunday seems to Your Committee still less excusable. The National Gallery, the British and Geological Museums, the exhibitions at Marlborough and Gore House, and other places of public instruction, are paid for by the nation; and it does not seem to Your Committee reasonable that these places should be closed upon the only day that it is possible for the majority of the population to visit them without serious loss.

Opinion of the Committee that the national institutions, &c., should be open on Sunday.

It has been objected, that to have the several national and other exhibitions open on the Sunday, must of necessity deprive the servants of those establishments of their day of rest. It has been suggested to Your Committee that there are numbers of persons who, if it were open to them, would gladly, at a moderate remuneration, volunteer their services for the Sunday after one o'clock, the hour at which it is proposed that all such places shall be opened; and Your Committee are not aware of any serious difficulty in the way of a register of persons, so willing to serve, being kept at the several institutions, or of such persons attending for a time as probationers, in order to make themselves thoroughly conversant with the requisite duties, and it would not then even be needful that the same persons should attend on consecutive Sundays.

The ordinary servants of such places need not attend on Sunday.

Your Committee have also entered very fully upon the inquiry into the regulation of temperance hotels, coffee-shops, &c., and have had sufficient evidence to satisfy them of the expediency of requiring that all temperance hotels, coffee-shops, eating-houses, and shell-fish shops shall be required to be licensed. Several such places are open during the entire night, are frequented, many of them, by bad and doubtful characters, and sell, under pretence of tea and coffee, spirits and other intoxicating drinks without any licence. Colonel Hogg states, that many shops in the country, professing to be coffee-shops, consume spirits; and in proof of the practice being carried on also in London, mentions that during his attendance on the Committee, he went to a coffee-shop at 20 minutes past two on Sunday morning, and asked for some gin, and the man said, "Yes, you shall have it; but you must drink it out of a cup; we cannot give you a glass, or if the police come in, I shall be fined." This was the landlord; it was 20 minutes past two on Sunday morning, and the house was full at that hour; there was a little milk placed on one side in a cream ewer; and I was instructed, if the constable came in, to put a little of that into it (6865-6).

Coffee-shops, temperance hotels, and other places of public refreshment to have licences.

Intoxicating drinks sold at such houses.

Sir Richard Mayne states that "the coffee-shops are represented as scenes of very great disorder and great mischief; there are greater scenes of disorder in coffee-shops than in beer-shops, arising from their not being under the same control as to closing at a particular hour, and being visited by the police." (217) And Mr. Daniel Whittle Harvey says, "we find more violations of the law taking

Disorderly conduct of coffee-shops.

place in coffee-houses which are not under the cognisance of the police than in public-houses. When the publicans are compelled to close their houses on Saturday night, many of their customers, who are well known to the police, resort to these coffee-houses and are there received; and it is immaterial, either as regards disorder or combination for illegal purposes, whether they meet in the coffee-houses or in the public-houses. It would, therefore, appear desirable, if it can be done without undue intrusion upon the rights of individuals, that coffee-houses which are not licensed should be placed under the superintendence of the police" (9369).

Opinion of Committee that such houses should be placed under more strict police control.

Evil of licensing billiard-rooms at beerhouses, &c., to be kept open after the hours for closing for sale of beer, &c.

Your Committee have had their attention directed to the 8th & 9th Vict., c. 109, s. 10, under which licences are allowed to be issued by the magistrates at the annual licensing sessions, for billiard-tables and bagatelle-boards, and which, in addition to encouraging gambling, become the means of the houses being kept open after the legal hours. Sir Richard Mayne states, that "184 licensed victuallers are licensed to have billiard-tables, and 972 to have bagatelle-boards, within the police district. Of the beershops, 142 are licensed to keep billiards, and 297 to keep bagatelle-boards. The superintendents of police state that one evil of the beershops having this licence is, that they are allowed to keep open later."

"The bagatelle-board licence admits of the house being kept open later than the beer licence; and there is a note made by the superintendent, 'It is an inducement for young persons to frequent these houses, and creates a tendency for gaming. The billiard licence to beershop-keepers authorises them to keep their houses open for play till one o'clock a.m.,' and they often evade in that way the general law applicable to them as beershop-keepers' (155–6).

Opinion of Committee that such rooms shall be closed at the same hour as the public-house or beershop.

Your Committee are therefore of opinion that no rooms of any beershop or public-house, licensed for billiards, bagatelle, or any other game, should be permitted to remain open after the hours for the closing the house.

Theatres and other places of entertainment.

As to theatres and other places of public entertainment, Your Committee find the law in a very unsatisfactory state. The 25 Geo. 2, c. 36, requires that "no house, room, garden, or other place shall be kept for public dancing, music, or other public entertainment of the like kind, within the cities of London or Westminster, or within 20 miles thereof, without a licence from the justices assembled at the Michaelmas Quarter Sessions, under a penalty of 100*l.*, and that such house shall not open for any of the purposes of the Act before the hour of five in the afternoon." The result of this provision of an obsolete Act is, that no morning musical performance can be given anywhere within 20 miles of London, without the device of patronesses to take it out of the definition of a public entertainment.

Unsatisfactory state of law as to London.

The Lord Chamberlain empowered to license all places for theatrical and other performances. Magistrates have also power.

The Lord Chamberlain has power to license places for certain performances in the Metropolitan District, and no play can be performed in any part of the kingdom, with the exception of Ireland, until it has been first submitted to the Lord Chamberlain, and licensed by him for performance. The 6 & 7 Vict. c. 68, confers on the magistrates, jointly with the Lord Chamberlain, the power of licensing theatres throughout the kingdom. The second section of the Act provides, "That, except as aforesaid, it shall not be lawful for any person to have or keep any house or other public place of resort in Great Britain, for the public performance of stage plays, without authority by virtue of letters patent from Her Majesty, her heirs and successors, or predecessors, or without licence from the Lord Chamberlain of Her Majesty's household for the time being, or from the justices of the peace, as hereinafter provided; and every person who shall offend against this enactment, shall be liable to forfeit such sum as shall be awarded by the Court in which, or the justices by whom he shall be convicted, not exceeding 20*l.* for every day on which such house or place shall have been so kept open by him for the purpose aforesaid without legal authority." "It is considered that by this clause the power of licensing on the part of the Lord Chamberlain is not restricted to what is properly called a theatre, but embraces other buildings." (8196.)

Penalties for performance without licence.

Performances are given without licence.

Mr. Norman Macdonald, superintendent of the department of the Lord Chamberlain, states, that "performances are given in unlicensed places, arising from

from a defect in the Act, there being no particular person appointed for enforcing the regulations and the penalties of the Act; the consequence is, that the Lord Chamberlain does not like to interfere, and the police do not like to interfere." (8160.)

No authority empowered to enforce the law.

The imperfect definition of the term stage-play, given in the Act, enables persons to have performances, some of them of a very inferior and demoralizing character, in places that are not licensed. The Act declares "that the word 'stage-plays' shall be taken to include every tragedy, comedy, farce, opera, burletta, interlude, melodrama, pantomime, or other entertainment of the stage, or any part thereof." This does not include concerts, songs, ballets, pose plastique performances by an individual, nor the exhibitions of what are termed judge and jury clubs. It is under this interpretation clause that the saloons in Manchester, Liverpool, and other towns produce performances in unlicensed places; and the best remedy for the inferior character of such performances is, that the said Act shall be amended, and that the magistrates shall meanwhile give it a liberal interpretation, and license all such places.

Demoralising performances without licence escape through defective definition of "stage-play."

The sureties required, both in the case of saloons and theatres, seem to Your Committee to be ample. Mr. Macdonald states, "that the manager of a theatre is bound in the sum of 300*l.*, and two sureties of 50*l.*; and the manager of a saloon is only bound in a surety of 200*l.*, and two sureties of 50*l.*; that is the only difference between a licence granted to a theatre or a saloon."

Distinction between saloons and theatres in amount of bond given by managers.

Your Committee remark that the duties of the Lord Chamberlain's office seem to have been performed without any vexatious exercise of the right of censorship. Mr. Macdonald mentions "that in 1850, there were 230 submitted, and none rejected; in 1851, there were 228, and five rejected; and in 1852, 225, and three rejected. One was rejected from the very gross and monstrous nature of the incidents that were introduced into it, that were quite unfit to be put on any stage; they were grossly immoral; two were rejected at the time of the excitement respecting Cardinal Wiseman, on account of their proposing to introduce very offensive allusions to the Roman Catholics; and two of them were French plays, which had had a good deal of success in Paris, but which were still thought not very desirable to produce here." (8130.)

Exercise of censorship by Lord Chamberlain.

Mr. Macdonald states, that "a fee of 2*l.* is paid for any play of three acts or more, and of 1*l.* for any play of one act and not more than three; the fee is paid by the manager, after approval, and if the piece is rejected there is no fee paid."

Fees upon censorship.

Your Committee are, however, of opinion that the payment of fees for the licence to perform plays, or more strictly for the censorship of the Lord Chamberlain, is open to objection. It would seem to be more advisable that a general licence for performances, sanctioned by the Lord Chamberlain, should be issued annually to the manager, and that for the censorship, which should be compulsory as to every performance, there should be no distinct fee. Mr. Serjeant Adams, who has given a very minute consideration to the whole question of public amusements, makes the following suggestions:—"I would supersede the power of the justices to grant licences for public entertainments. The regulation and management of the minor theatres has, by statute 6 & 7 Vict. c. 68, been judiciously vested in the Lord Chamberlain, and two jurisdictions are therefore not required. This alteration would at once put an end to the most mischievous of all the effects of granting licences to public-houses, namely, the theatrical saloons. I would remove the prohibition against morning amusements, which I think needless, and even ridiculous. I would not make it compulsory upon the justices to grant licences for music and dancing, but authorise them to grant licences for both or either at their discretion. I would make it compulsory on them to grant licences for music to all housekeepers (not being licensed victuallers) with testimonials of character and securities for the good conduct of the house. I would prohibit them from granting licences for music and dancing to any licensed victualler within what may be termed the heart of the metropolis; that is to say, I would limit all such licences (when held in conjunction with ale and spirit licences) to public gardens and places in the suburbs; and I would give a discretionary power to grant music licences to all publicans, and music and dancing licences to all other householders within the prescribed district, which I would limit to a reasonable distance from the metropolis, say the district of the metropolitan boroughs. I would place all these licensed

Opinion of Committee that an annual licence duty shall be substituted for fees on censorship, and that all places of performances shall be licensed, and all performances subject to censorship.

Suggestions by Mr. Serjeant Adams, for control of places of public amusement.

houses under the strictest surveillance and control of the police and justices, and establish penalties and forfeitures similar in character with those inflicted on offending publicans (and I would give the most ample powers to the police to enter into any unlicensed house and take the inmates into custody), and powers to the police magistrates of fine and imprisonment."

Opinion of Committee that the sale of intoxicating drinks should not be connected with places of public amusement.

Your Committee are fully impressed with the importance of as far as possible dissociating places of public entertainment from the sale of intoxicating drinks. Dramatic and musical performances have a tendency, under strict censorship, to raise the character of the people, and there is evidence of a growing taste for such entertainments amongst the working classes, and which it appears to Your Committee may be made to serve as a powerful counter-attraction to the public-house.

Opinion that places for musical and other entertainment may be useful in the prevention of intemperance.

Your Committee have been impressed with the good effects of the Saturday evening concerts, such as take place at the Lord Nelson-street Rooms, Liverpool, which, on all occasions, are presided over by some person of note or respectability; and they are satisfied that were the example followed, and the means provided independent of public-houses, for the working classes to gratify their taste, especially for music, the result would be a diminution of intemperance, and the refinement of the popular taste.

Your Committee, on consideration of the whole of the evidence, and the public and private interests concerned, have agreed to the following Resolutions:—

Resolved,—

That no intoxicating drink should be sold without a licence.

That there should be one uniform licence for the sale of intoxicating drinks.

That such licences should be issued by the magistrates at sessions holden for that purpose.

That it should be open to all persons of good character to obtain such licence, on compliance with certain conditions, and the payment of a certain annual sum.

That every person, previous to obtaining a licence, should himself give bond, and find two sureties to be bound with him, for the due observance of the law and conditions upon which the licence shall be granted.

That the lowest amount to be paid for a licence should, in rural parishes and small towns, be 6*l.*; in towns or parishes exceeding 5,000 and not exceeding 10,000 inhabitants, it should be 8*l.*; and that, above 10,000, the price should be increased 2*l.* for every 5,000 inhabitants; but that in no case should the price exceed 30*l.*

That in case of any conviction for breach of the law or condition of the licence, the sureties should be at liberty to give notice of the withdrawal of their names as sureties at the next licensing sessions after the date of such notice.

That in large towns and populous places there should be appointed inspectors of public-houses, and all places of public refreshment and entertainment, as in the case of common lodging-houses; and that such inspectors should constantly visit and report upon the condition and conduct of all such houses and places.

That in all cases of drunkenness, and riotous or disorderly conduct, such inspectors should, if necessary, have power to call in the assistance of the police.

That in all cases of trading during the hours prohibited by law, or selling liquors without licence, the persons found actually present should be deemed guilty of the same offence, and should be liable to a penalty not exceeding half of the penalty which may be imposed upon the proprietor.

That all coffee-shops, temperance hotels, shell-fish shops, and similar places of public resort, should be required to be licensed for their respective purposes, and should be subject to be visited and reported upon in the same manner as public-houses; and that the amount to be paid for every such licence should be 2*l.* per annum.

That

That any person selling intoxicating drinks without being licensed for their sale, should be subject to a penalty, to be recovered before the magistrates, not exceeding double the amount required by law to be paid in that locality for a licence to sell intoxicating drinks.

That such publicans and beershop-keepers as are already licensed should not be required to find sureties, nor to pay any higher scale of duties than they are at present required to pay, and should be entitled to the renewal of the licence in every respect as at present; but should be visited and reported upon by the inspectors of public-houses, and should be subject to the same police regulations as are proposed with regard to future licences; and in case of conviction of any offence against the law, should be brought in all respects under the new rules.

That with the exception of the hours of from one to two o'clock p.m., and of from six to nine p.m., all places for the sale of intoxicating drinks should be closed on Sunday, and that on the week-days all such houses should be closed from 11 o'clock p. m. until four o'clock, a. m.

That no public theatrical or musical performance, pictorial or other representation or exhibition, should be permitted without a licence.

That it should be open to all persons to obtain such licence from the Lord Chamberlain, or other competent authority, on payment of a sum not exceeding 5 *l.* per annum, and on giving bond and sureties for the observance of the law and conditions of the licence.

That it is expedient that places of rational recreation and instruction now closed, should be open to the public on Sunday after the hour of Two o'clock, p. m.; and that so far as any such places are now closed by operation of law, such law should be so far amended as to enable the Lord Chamberlain, or other competent authority, to determine what places shall be permitted to be so opened, and for what length of time.

That the several laws relating to the regulation and licensing of beershops, public-houses, and places of entertainment, and the several provisions of the Police and Excise Acts appertaining thereto, should be consolidated and made to accord with these Resolutions.

13 *July* 1854.

PROCEEDINGS OF THE COMMITTEE.

Veneris, 19° *die Maii*, 1854.

MEMBERS PRESENT:

Mr. Brown.
Mr. Packe.
Sir John Pakington.
Sir George Goodman.
Sir George Grey.
Mr. Beckett.
Mr. Gregson.
Lord Dudley Stuart.
Mr. Lowe.
Mr. Ker Seymer.
Mr. C. P. Villiers.

Mr. C. P. VILLIERS called to the Chair.

The Committee deliberated as to their course of proceeding.

[Adjourned till Tuesday, at One o'clock

Martis, 23o *die Maii*, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Mr. Brown.
Mr. Sotheron.
Sir George Goodman.
Mr. Gregson.
Mr. Packe.
Mr. Barrow.
Lord Dudley Stuart.
Mr. Ker Seymer.
Sir George Grey.

Mr. *John Weylland*, the Rev. *John Baylen*, were severally examined.

Adjourned till Friday, at One o'clock.

Veneris, 26° *die Maii*, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Mr. Brown.
Sir George Grey.
Mr. Packe.
Sir George Goodman.
Mr. Barrow.
Mr. Ker Seymer.
Mr. Gregson.
Lord Dudley Stuart.

Mr. *Henry Glass*, Mr. *Richard Chamen*, Mr. *George Haddock*, Mr. *Charles Bowthorpe*, Mr. *Joseph Powell*, Mr. *Edward Bryant*, Mr. *Joseph Wood*, were severally examined.

[Adjourned till Tuesday, at One o'clock.

Martis, 30° *die Maii*, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Mr. Brown.	Mr. Packe.
Sir George Goodman.	Sir John Pakington.
Mr. Gregson.	Sir George Grey.
Mr. Barrow.	Mr. Ker Seymer.
Lord Dudley Stuart.	

Mr. *Charles Balfour*, Mr. *Robert Hutton*, were severally examined.

[Adjourned till Friday, at One o'clock.

Veneris, 2° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Mr. Brown.	Sir John Pakington.
Sir George Grey.	Mr. Packe.
Lord Dudley Stuart.	Mr. Gregson.
Sir George Goodman.	

Mr. *John Caldwell*, Mr. *Nathaniel Card*, were severally examined.

[Adjourned till Friday, at One o'clock.

Veneris, 9° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Lord Dudley Stuart.	Mr. Gregson.
Sir George Grey.	Mr. Lowe.
Mr. Sotheron.	

Mr. *William Howarth*, Mr. *Thomas Wright*, Mr. *John Cunliffe*, were severally examined.

[Adjourned till Tuesday, at One o'clock.

Martis, 13° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Mr. Brown.	Sir George Goodman.
Mr. Barrow.	Mr. Packe.
Mr. Sotheron.	Mr. Ker Seymer.
Mr. Gregson.	Sir John Pakington.
Lord Dudley Stuart.	

Mr. *James Haughton*, Mr. *Thomas Jackson*, Mr. *Joseph Hunter*, Mr. *Henry Worn*, Mr. *John Everett*, were severally examined.

[Adjourned till Friday, at One o'clock.

Veneris, 16° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Mr. Brown.	Mr. Lowe.
Lord Dudley Stuart.	Sir John Pakington.
Mr. Barrow.	Mr. Packe.
Sir George Goodman.	Mr. Gregson.
Mr. Ker Seymour.	

Mr. Philipps, Sir *Joseph Paxton*, Mr. *Robert Nelson*, Mr. *William James*, Mr. *William Spirett*, Mr. *Reginald Richardson*, Mr. *George Clegg*, were severally examined.

[Adjourned till Tuesday, at One o'clock.

Martis, 20° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Lord Dudley Stuart.	Mr. Sotheron.
Mr. Gregson.	Mr. Packe.
Sir George Goodman.	Mr. Brown.

Mr. *Joseph Stinton*, Mr. *John Homer*, Rev. *Francis Thornburgh*, Mr. *William Speechley*, were severally examined.

[Adjourned till Friday, at One o'clock.

Veneris, 23° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Mr. Brown.	Mr. Barrow.
Mr. Ker Seymour.	Sir John Pakington.
Lord Dudley Stuart.	Mr. Gregson.

The Rev. *Archibald M'Callum*, Mr. *F. R. Lees*, Mr. *Arthur Hassall*, Mr. *John M'Cullock*, were severally examined.

[Adjourned till Tuesday, at One o'clock.

Martis, 27° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Mr. Brown.	Mr. Gregson.
Mr. Lowe.	Mr. Packe.
Lord Dudley Stuart.	Mr. Sotheron.
Mr. Barrow.	Lord Ernest Bruce.

Mr. *William Hawes*, Mr. *Charles Balfour*, were severally examined.

[Adjourned to Thursday, 6th July, at One o'clock.

Jovis, 6° die Julii, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Mr. Brown.	Sir George Goodmam.
Mr. Barrow.	Mr. Lowe.
Lord Dudley Stuart.	Lord Ernest Bruce.
Mr. Gregson.	Mr. Sotheron.

Draft Report proposed by the Chairman, brought up and read 1°.

[Adjourned till To-morrow, at One o'clock.

Veneris, 7° die Julii, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Mr. Brown.	Mr. Gregson.
Mr. Barrow.	Sir John Pakington.
Mr. Lowe.	Sir George Goodman.
Lord Dudley Stuart.	Mr. Sotheron.

The Committee deliberated on proposed Resolutions to be embodied in their Report.

[Adjourned to Tuesday, at One o'clock.

Martis, 11° die Julii, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Mr. W. Brown.	Lord Dudley Stuart.
Sir G. Goodman.	Mr. Lowe.
Mr. Gregson.	Lord Ernest Bruce.
Mr. Barrow.	Mr. Sotheron.
Sir J. Pakington.	

Committee deliberated.

Motion made, and Question, "That no intoxicating drink should be sold without a licence" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question, "That there should be one uniform licence for the sale of intoxicating drinks" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question, "That such licences should be issued by the magistrates, at sessions holden for that purpose" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question, "That it should be open to all persons of good character to obtain such licence, on compliance with certain conditions, and the payment of a certain annual sum" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question, "That every person, previous to obtaining a licence, should himself give bond, and find two sureties to be bound with him, for the due observance of the law and conditions upon which the licence shall be granted" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question proposed, "That the lowest amount to be paid for a licence, in any town with a population not exceeding 5,000, be 10 *l.*, and that the amount shall be increased by a scale in the ratio of 10 *s.* for every 5,000 inhabitants, but in no case shall exceed 50 *l.*" (Mr. *C. Villiers.*) — Amendment proposed, to leave out from the word "Licence" to the end of the Question, in order to add the following words: "should, in rural parishes and small towns, be 6 *l.*; in towns or parishes exceeding 5,000 and not exceeding 10,000 inhabitants, it should be 8 *l.*; and that, above 10,000, the price should be increased 2 *l.* for every 5,000 inhabitants; but that in no case should the price exceed 30 *l.*" (Sir *J. Pakington*), instead thereof.—Question, "That the words proposed to be left out stand

stand part of the Question," put and negatived. — Words added. — Main Question, as amended, put. The Committee divided:

Ayes, 5.	Noes, 2.
Mr. Brown.	Mr. Barrow.
Sir G. Goodman.	Mr. Lowe.
Mr. Gregson.	
Sir J. Pakington.	
Lord D. Stuart.	

Motion made, and Question, "That in case of any conviction for breach of the law or condition of the licence, the sureties should be at liberty to give notice of the withdrawal of their names as sureties at the next licensing sessions after the date of such notice" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question proposed, "That there shall be appointed a special class of police for the distinct duty of inspecting public-houses and all places of public refreshment and entertainment; and that such police shall, as in the instance of the common lodging-house inspectors, constantly visit and report upon the condition and conduct of all such houses and places. (Mr. *C. Villiers.*)—Amendment proposed, to leave out from the word "That" to the word "Constantly," in order to insert the following words: "In large towns and populous places there should be appointed inspectors of public-houses, and all places of public refreshment and entertainment, as in the case of common lodging-houses; and that such inspectors should" (Mr. *Lowe*), instead thereof.—Question, "That the words proposed to be left out stand part of the Question," put and negatived.—Words inserted.—Main Question, as amended, put and agreed to.

Motion made, and Question, "That in all cases of drunkenness and riotous or disorderly conduct, such inspector should, if necessary, have power to call in the assistance of the police" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question, "That in all cases of trading during the hours prohibited by law, or selling liquors without licence, the persons found actually present should be deemed guilty of the same offence, and should be liable to a penalty not exceeding half of the penalty which may be imposed upon the proprietor" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question, "That all coffee-shops, temperance hotels, shell-fish shops, and similar places of public resort, should be required to be licensed for their respective purposes, and should be subject to be visited and reported upon in the same manner as public-houses; and that the amount to be paid for every such licence should be 2 *l.* per annum" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question, "That any person selling intoxicating drinks without being licensed for their sale, should be subject to a penalty, to be recovered before the magistrates, not exceeding double the amount required by law to be paid in that locality for a licence to sell intoxicating drinks" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question, "That such publicans and beershop-keepers as are already licensed should not be required to find sureties, nor to pay any higher scale of duties than they are at present required to pay, and should be entitled to the renewal of the licence in every respect as at present; but should be visited and reported upon by the inspectors of public-houses, and should be subject to the same police regulations as are proposed with regard to future licences; and in case of conviction of any offence against the law, should be brought in all respects under the new rules" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question, "That with the exception of the hours of from one to two o'clock p.m., and of from six to nine p.m., all places for the sale of intoxicating drinks should be closed on Sunday, and that on the week-days all such houses should be closed from 11 o'clock p.m., until four o'clock a.m." (Mr. *C Villiers*), put and agreed to.

Motion made, and Question, "That no public theatrical or musical performance, pictorial or other representation or exhibition, should be permitted without a licence" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question, "That it should be open to all persons to obtain such licence from the Lord Chamberlain, or other competent authority, on payment of a sum not exceeding 5 *l.* per annum, and on giving bond and sureties for the observance of the law and conditions of the licence" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question "That it is expedient that places of rational recreation and instruction now closed, should be open to the public on Sunday after the hour of two o'clock, p.m.; and that so far as any such places are now closed by operation of law, such law should be so far amended as to enable the Lord Chamberlain, or other competent authority, to determine what places shall be permitted to be so opened, and for what length of time" (Mr. *C. Villiers*), put and agreed to.

Motion made, and Question, "That the several laws relating to the regulation and licensing

licensing of beershops, public-houses, and places of entertainment, and the several provisions of the Police and Excise Acts appertaining thereto, should be consolidated and made to accord with these resolutions" (Mr. *C. Villiers*), put and agreed to.

[Adjourned to To-morrow, at Twelve o'clock.

Mercurii, 12° *die Julii*, 1854.

MEMBERS PRESENT:

Mr. C. P. VILLIERS, in the Chair.

Mr. Brown.	Sir John Pakington.
Sir G. Goodman.	Mr. Lowe.
Mr. Barrow.	Lord Dudley Stuart.

Draft Report read 2°, and considered paragraph by paragraph.

Several Amendments made.

Paragraph, page 23, "The servants of such places need not attend on Sunday," read Question put, "That this paragraph stand part of the proposed Report." The Committee divided:

Ayes, 5.	Noes, 2.
Mr. Brown.	Mr. Barrow.
Sir G. Goodman.	Mr. Lowe.
Sir. J. Pakington.	
Lord D. Stuart.	
Mr. Sotheron.	

Other paragraphs read, amended, and agreed to.

Question, "That the Resolutions agreed to yesterday be added to the Report," put, and agreed to.

Question, "That this Report, together with the Resolutions and Minutes of Evidence, be the Report to The House," put, and agreed to.

Ordered, To Report.

EXPENSES OF WITNESSES.

NAME of WITNESS.	PROFESSION or CONDITION.	By what Member of Committee Motion made for Attendance of the Witness.	Date of Arrival.	Date of Discharge.	Total Number of Days in London.	Number of Days under Examination by Committee, or acting specially under their Orders.	Expenses of Journey to London and back.	Expenses in London.	TOTAL Expenses Allowed to Witness.
							£. s. d.	£. s. d.	£. s. d.
William Howarth		Chairman	9 June	10 June	1	1	4 5 –	1 – –	5 5 –
Thomas Wright		Ditto	9 „	10 „	1	1	4 5 –	1 – –	5 5 –
John Cunliffe		Ditto	9 „	10 „	2	1	3 – –	2 2 –	5 7 –
Henry Worn		Ditto	12 „	13 „	2	1	4 3 –	2 2 –	6 5 –
James Haughton	Merchant	Ditto	10 „	13 „	3	1	4 10 –	3 3 –	7 13 –
Reginald Richardson	Land Surveyor	Ditto	16 „	17 „	2	1	2 10 –	4 4 –	6 14 –
Rev. A. K. M'Callum	Clerk	Ditto	21 „	22 „	2	1	8 4 –	2 2 –	10 6 –
F. R. Lees, LL.D.	Surgeon	Ditto	21 „	22 „	2	1	5 – –	4 4 –	9 4 –
								£.	55 19 –

REPORT

FROM THE

SELECT COMMITTEE

ON

PUBLIC HOUSES;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE.

Ordered, by The House of Commons, *to be Printed,*
13 *July* 1854.

367.

Under 4 *oz.*

THIRD

REPORT

FROM THE

SELECT COMMITTEE

ON

VENTILATION OF THE HOUSE;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE,

AND

MINUTES OF EVIDENCE.

Ordered, by The House of Commons, *to be Printed,*
24 *July* 1854.

403.

Veneris, 10° *die Martii*, 1854.

Ordered, That a Select Committee be appointed to consider of the best Means of improving the Ventilation of the House, the Lobbies, and the Libraries, and to report thereupon to The House as soon as may be.

Committee nominated of,—

Mr. Spooner.
Sir William Molesworth.
Mr. Thomas Greene.
Lord Robert Grosvenor.
Mr. Hume.
Mr. Drummond.
Mr. Bankes.
Mr. Cayley.
Lord John Manners.
Mr. Chichester Fortescue.
Mr. Wilson Patten.
Sir Benjamin Hall.
Mr. Bouverie.
Lord Elcho.
Marquis of Chandos.

Ordered, That the Committee have power to send for Persons, Papers, and Records.

Ordered, That Five be the Quorum of the Committee.

Martis, 14° *die Martii*, 1854.

Ordered, That the Reports on Ventilation, Warming and Lighting of the Houses of Parliament be referred to the Committee.

Veneris, 31° *die Martii*, 1854.

Ordered, That the Committee have power to report their Observations, together with the Minutes of the Evidence taken before them, from time to time, to The House.

Veneris, 26° *die Maii*, 1854.

Ordered, That Lord John Manners be discharged from further attendance on the Committee, and that Lord Henry Cholmondeley be added thereto.

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THIRD REPORT.

THE SELECT COMMITTEE appointed to consider of the best Means of Improving the VENTILATION of the HOUSE, the LOBBIES, and the LIBRARIES, and to Report thereupon at as early a period as may be:——HAVE made further progress in the Matters to them referred, and have agreed to the following THIRD REPORT:

THE House of Lords having communicated to this House the decision of their Committee, who "recommend that the Ventilation of the House of Lords, and of all the Corridors and Chambers adjoining, except the Library, shall be entrusted to Mr. Gurney," that portion occupied by the House of Commons having been already temporarily confided to his superintendence, Your Committee, satisfied with the success of the experiment so far as it has gone, although necessarily, as yet, imperfectly carried out, thought it right to examine Mr. Gurney as to his willingness to undertake the further Ventilation of the whole Building, and as to the terms on which he would be content to do it.

Mr. Gurney stated his readiness to undertake the duties, if fairly remunerated; and Your Committee recommend that measures should be taken to engage him in the management of the Ventilation of the House of Commons, and of all the corridors and chambers adjoining, including the Library.

24 *July* 1854.

PROCEEDINGS OF THE COMMITTEE.

Veneris, 20° die Julii, 1854.

MEMBERS PRESENT.

Mr. CAYLEY in the Chair.

Mr. Greene.	Mr. Spooner.
Sir William Molesworth.	Mr. Bankes.

The Committee examined Mr. *Goldsworthy Gurney.*

The Committee agreed to a further Report.

MINUTES OF EVIDENCE.

Veneris, 21° *die Julii*, 1854.

MEMBERS PRESENT.

Mr. Cayley.	Mr. Bankes.
Sir William Molesworth.	Mr. Spooner.
Mr. Greene.	

EDWARD STILLINGFLEET CAYLEY, Esq., IN THE CHAIR.

Goldsworthy Gurney, Esq., called in; and Examined.

G. Gurney, Esq.

21 July 1854.

233. *Chairman.*] HAVE you seen the Report of the House of Lords Committee on Ventilation?—I have.

234. I perceive by the Report that you have been recommended to be employed in ventilating that part of the Palace of Westminster?—Yes; I believe the wish is that I should manage the whole; the libraries are stated to be excepted; but I believe the intention is to adopt the spirit of the recommendation in my Report on this question, which is printed in the Appendix, namely, "that the libraries should trust more for their ventilation to open windows, and open fires, than motive power;" which the librarians wish to manage themselves.

235. The House of Lords, in fact, appear to have decided to put the whole of the House of Lords and the various adjuncts under your care, excepting merely their own libraries?—Excepting their own libraries, which they wish to manage themselves, as I have stated.

236. Do you feel competent to undertake the ventilation of both Houses?—Yes; I have gone carefully into the subject.

237. Do you think it would be more satisfactory to yourself, and more efficient as to its results, if the ventilation were placed under one control?—Decidedly; because cross ventilation disturbs the air, and interferes with the best arrangements.

238. There was a great smell in the House last night between the door of the Lobby of the House of Commons and the House of Commons door itself; to what do you attribute that?—It pervaded, more or less, the whole of this House, the House of Lords, and the whole of Palace-yard, and the neighbourhood.

239. Did it arise from any circumstance, do you think, connected with the management of the ventilation not being under one control?—No.

240. You think it was from some extraneous cause?—It was. We first perceived it in the Star Chamber Court, and then on the other side of the House as well; the character of the smell scarcely any one could mistake; it was the smell of phosphorated and sulphuretted hydrogen, mixed with some ammoniacal gases: the smell from sewers is principally sulphuretted hydrogen, but that from more direct animal matters is sensibly mixed with phosphorated hydrogen, which this was. On searching very minutely every part of the House, and being satisfied there was nothing there, a search was made in the neighbourhood. At the end of Westminster Bridge there is the open mouth of a large sewer emptying itself into the river; and close to it, between the bridge and the Speaker's house, there is a large place for the accommodation of the workmen employed about the new building. Between 11 and 12 o'clock the tide reached this spot, and disturbed the whole of the accumulated filth, and produced the smell which affected the neighbourhood: the wind set towards the House, and the effluvia

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came in with the air for ventilation; part of the effluvia came up through the untrapped gully-holes over the drains near the bridge. The stench came into the houses in Palace-yard. There is great complaint there from the inhabitants; it was very bad last night. Last Friday afternoon a stench came into the libraries. Mr. Kelly, the officer of the Board of Works in attendance at the House, traced it to this source at the end of the bridge. This was precisely similar, and I have no doubt arose from the same place: it should be removed.

241. Does it fall within your knowledge to know whether it rests with any public body to check that?—That from the sewers rests with the Commissioners of Sewers; that from the accommodation places, on those who put them there.

242. With whom does it rest to check that?—I should think the annoyance from the sewers with the Commissioners; that from the accommodation places must rest, I think, with the builder, or the person who has charge of the building, possibly the contractor.

243. Has the Board of Health anything to do with it?—I suppose not; but if it is pestilential, which I think it is, the Board of Health ought to take cognizance of it.

244. Can you tell us what your occupation in life is; is it to live in London or the country?—My occupations for the last years of my life have been in the country.

245. Were you living in the country when you were summoned up here on the subject of ventilation especially?—Yes; I live in the country, and have many engagements. I farm to a very considerable extent, and am now draining and otherwise improving a large manor lately come into my possession. I have other duties to perform there.

246. Such as what?—I act as a magistrate for the counties of Devon and Cornwall, and have much public business to attend to. I am engaged on some important agricultural experiments connected with matters of vegetable physiology. I have the honour to be the president of an agricultural society, and some other engagements, in which I take much interest, and I think I am of some use.

247. Should you be willing to leave those occupations to undertake a business of this kind?—Yes. I stated to the Committee, when I was first examined, that I was willing to do so for the House of Commons, inasmuch as the system of lighting and present ventilation originated with me, and because I should like to see them fairly carried out: they have, to a certain extent, been carried out in this House; and, under a feeling which may easily be understood, I am willing, and should like personally to see them carried out in the House of Lords; I am willing to do so, upon the understanding that I shall be fairly compensated for my expenses and time.

248. What would you consider a fair compensation for that undertaking, and the responsibility?—I should have to give up all my present pursuits, and to remove my establishment from the country; I am not governed by this consideration, but feel a wish to be guided by ordinary payments for such services and responsibility. I think it should be 1,000*l*, a year. I observe, as a precedent, that Dr. Reid had 750*l*. a year for his services, confined only to one House; to only one room in this House; for none of the committee-rooms in this House or the House of Lords was under his charge. If my duties extend to the whole of the two Houses, I think the sum should be 1,000*l*. a year. I do not think, to arrange the whole ventilation, and do fair justice to the House, myself, and others, it should be less.

249. Dr. Reid had latterly 800*l*. a year?—It was more, when every payment was considered, for he received many gratuities, in addition; I am told, as much as 1,000*l*. at one time.

250. Sir *W. Molesworth.*] What have you received?—Nothing. I received for lighting the old House, at the end of 14 years, 1,400*l*.; supposed to be 100*l*. a year for the use of my patent light.

251. Was that 1,400 *l*. all that you received?—I contracted for the supply of men and materials for lighting the old House, because I wished to see it myself fairly done, at an expense of 450 *l*. a Session; this contract continued till the year 1843 or 1844; I paid all expenses, which cost this sum, and therefore could not be said to receive anything for myself. In 1843–44 I gave it up, and placed it in the hands of the Woods and Forests. An officer of the Woods and Forests was appointed to manage the lighting under my system. At the end

of

of 14 years, I was paid at the rate of about 100 *l.* a year for the use of the patent. I never considered I was paid anything for myself, for it did not cover my personal expenses. I was paid 400 *l.* a year for four years previous to the contract, for materials and men. The saving in expense during the 14 years was upwards of 7,000 *l.*

252. *Chairman.*] Then in fact you originated the present system of lighting?—Yes.

253. And you say it was taken from you and placed under Dr. Reid?—I think Dr. Reid never attended to it; it was placed under Mr. Fincham, the officer of the Woods and Forests; he carried it on until the House was taken down. I was then away from London, and was again summoned to town in 1852, when I recommended the present system now in use in the House.

254. Have you formed any idea of the annual expense that your system would put the House of Commons to, or the Houses of Parliament to, as compared with the previous system?—I can form no accurate judgment as to what the expense previously has been; the expense of the system would be much less.

255. Could you furnish any data, or could you make an estimate, which might be put into the Appendix, of what the probable expense of your system would be?—Yes. To carry out what their Lordships' House required I gave in a report.

256. You could perhaps ascertain from any public document what the previous expense has been?—I can; and ascertain pretty nearly what the expense would be now.

257. I want to see what the difference would be in the annual expenditure between your system and the previous system, if I could get it?—There is more to be done in the House of Lords than in the House of Commons, or rather to undo; a great deal of heavy work, which must be removed. In the House of Commons we removed a great many doors, traps, and flaps, but the heavy parts remain.

258. I am not speaking of the work necessary to carry out the system; but when once the system has been established, I want to know if there would be any annual saving which would take place under your system, as compared with the previous system?—There would be a great saving. I cannot say to what amount off-hand; but I could get to it pretty accurately.

259. Sir *W. Molesworth.*] What would be the items of saving?—First, the expenditure of fuel; secondly, the number of attendants (the up-cast shaft is badly arranged, and burns an immense amount of fuel); also the expense of the steam-engines generally.

260. There would be no diminution in the expenditure on account of lighting?—The lighting would be about the same in the House of Commons; the Lords recommend that the lights put up by Mr. Meeson be perfected. The burners will be nearer the table of the House, and the expenditure of gas will be less. I suppose the loss of light would not be great to insulate them; the saving of expense will be considerable. The gas burners at the galleries are placed a long way from the table of the House of Lords, and there is no means adopted of sending light to the table by dispersion, reflection, or refraction, or anything else; and as radiated light loses as the squares of its distance, it now requires a very great quantity to reach the table. The alteration will save expense in the House of Lords. In the House of Commons the expense will not be increased, but be reduced if the lobby lights are completed.

261. *Chairman.*] You would have nothing to do with the lighting in the House of Commons?—The House of Commons is lighted by my system, but is not under my superintendence.

262. Mr. *Spooner.*] With regard to the difference of expense between the old system and your own, how many steam-engines were employed under the old system?—There were three steam-engines at work altogether; two were employed for the House of Commons; those two are thrown out of use altogether, and of course the expense of fuel, engineers, and men attached to them also.

263. Of what horse power were they?—One was nominally 10 horse power, and the other 14 or 15.

264. What would be the expense per week to work them, when they were at work?—I could not tell exactly; I should think not less than from 15 *l.* to 20 *l.* a week; they were worked night and day.

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21 July 1854.

265. Would those steam-engines entirely be disused under your plan?—Yes.

266. There was a third engine, you say?—Yes, one for the Lords.

267. Do you propose to keep one going?—No.

268. Then all three would be laid aside?—Two are laid aside already.

269. What is the horse power of the one not yet laid aside?—I have heard it is 20 horse power.

270. That would be laid aside?—Yes, that would not be wanted.

271. Can you state what is the expense per week of working that engine, of 20 horse power?—About two and a half bushels of coals an hour (it is a high pressure engine); the expense of the engineer, and firemen, oil and repairs, &c., would not be much less than 15 *l.* or 16 *l.* a week.

272. All that expense would be saved?—Yes.

273. Does the steam-engine form any part of your plan at all?—None at all.

THIRD

REPORT

FROM THE

SELECT COMMITTEE

ON

VENTILATION OF THE HOUSE;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE,

AND

MINUTES OF EVIDENCE.

Ordered, by The House of Commons, *to be Printed*,
24 *July* 1854.

403.

Under 2 *oz.*

Brought from the Lords, 18 *July* 1854.

REPORT

FROM THE

SELECT COMMITTEE OF THE HOUSE OF LORDS,

APPOINTED TO INQUIRE INTO

The Possibility of Improving the Ventilation and the Lighting of the House, and the contiguous Chambers, Galleries, and Passages;

AND TO REPORT THEREON TO THE HOUSE;

TOGETHER WITH THE

MINUTES OF EVIDENCE,

AND AN APPENDIX.

Session 1854.

Ordered, by The House of Commons, *to be Printed*,
19 *July* 1854.

REPORT.

BY THE LORDS COMMITTEES appointed a SELECT COMMITTEE to "inquire into the Possibility of Improving the VENTILATION and the LIGHTING of THE HOUSE, and the contiguous Chambers, Galleries and Passages," and to report to The House; and to whom leave was given to report from time to time to The House:

ORDERED TO REPORT,

THAT the Committee have met, and considered the subject-matter referred to them, and have examined several Witnesses in relation thereto, and have agreed to the following REPORT:—

It appears, from the Evidence of Members of the House of Commons who usually sit in different parts of it, as well as from general report, that the Ventilation of that House has been much improved by Mr. Goldsworthy Gurney; and the Committee recommend the Ventilation of the House of Lords, and of all the Corridors and Chambers adjoining, except the Library, shall be entrusted to Mr. Gurney.

As regards Lighting, although the daylight admitted through the stained windows of the House is not, in dark weather, so good as might be desirable, the Committee are reluctant to suggest any alteration of those windows, whose character and decoration so well accord with the style of, and embellish the Chamber; and it appears that there will be no difficulty in making parts of those windows to open, as the Committee and Mr. Gurney think desirable.

For Artificial Lighting, the Committee recommend that the pendant lights put up by Mr. Meeson, and lately tried in the House, should be made perfect in a mode by which all products of combustion shall be carried out of the House, and be permanently adopted.

And the Committee have directed the MINUTES OF EVIDENCE taken before them, together with an APPENDIX, to be laid before Your Lordships.

7 July 1854.

NAMES OF THE LORDS PRESENT AT EACH SITTING OF THE COMMITTEE.

Die Veneris, 17° *Martii* 1854.

Earl Graham.	Viscount Canning.
Earl of Malmesbury.	Lord Beaumont.
Viscount Torrington.	Lord Somerhill.
Viscount Sydney.	

Die Jovis, 23° *Martii* 1854.

Marquess of Lansdowne.	Viscount Canning.
Earl Graham.	Lord Ponsonby.
Earl of Hardwicke.	Lord Ardrossan.
Earl De Lawarr.	Lord Somerhill.
Viscount Torrington.	Lord Stanley of Alderley.
Viscount Sydney.	

Die Veneris, 24° *Martii* 1854.

Marquess of Lansdowne.	Viscount Canning.
Earl Graham.	Lord Redesdale.
Earl De Lawarr.	Lord Somerhill.
Viscount Torrington.	Lord Stanley of Alderley.
Viscount Sydney.	

Die Jovis, 4° *Maii* 1854.

Marquess of Lansdowne.	Lord Ardrossan.
Viscount Torrington.	Lord Somerhill.
Viscount Canning.	Lord Ashburton.

Die Lunæ, 8° *Maii* 1854.

Earl Graham.	Lord Ponsonby.
Earl De Lawarr.	Lord Somerhill.
Viscount Torrington.	Lord Ashburton.
Viscount Canning.	Lord Stanley of Alderley.
Lord Beaumont.	

Die Veneris, 12° *Maii* 1854.

Marquess of Lansdowne.	Lord Beaumont.
Earl Graham.	Lord Ponsonby.
Earl De Lawarr.	Lord Ardrossan.
Viscount Torrington.	Lord Somerhill.
Lord Willoughby de Eresby.	Lord Ashburton.

NAMES OF THE LORDS PRESENT AT EACH SITTING OF THE COMMITTEE—*continued.*

Die Lunæ, 15° *Maii* 1854.

Earl De Lawarr.
Viscount Torrington.
Lord Beaumont.
Lord Ponsonby.
Lord Ardrossan.
Lord Somerhill.
Lord Wrottesley.

Die Veneris, 19° *Maii* 1854.

Viscount Torrington.
Viscount Canning.
Lord Beaumont.
Lord Ponsonby.
Lord Somerhill.
Lord Wrottesley.

Die Lunæ, 12° *Junii* 1854.

Marquess of Lansdowne.
Viscount Canning.
Lord Beaumont.
Lord Somerhill.
Lord Wrottesley.

Die Lunæ, 3° *Julii* 1854.

Earl Graham.
Earl De Lawarr.
Viscount Torrington.
Viscount Sydney.
Lord Beaumont.
Lord Redesdale.
Lord Somerhill.
Lord Stanley of Alderley.

MINUTES OF EVIDENCE.

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Die Veneris, 17° *Martii* 1854.

LORDS PRESENT:

Earl GRAHAM.	Viscount CANNING.
Earl of MALMESBURY.	Lord BEAUMONT.
Viscount TORRINGTON.	Lord SOMERHILL.
Viscount SYDNEY.	

THE LORD SOMERHILL in the Chair.

Evidence on the Ventilation and Lighting of the House.

A. Meeson, Esq.

17th March 1854.

ALFRED MEESON, Esquire, is called in, and examined as follows:

1. YOU have the charge, under Sir Charles Barry, of the lighting and ventilation of the House?
Not under Sir Charles Barry, but under the Office of Works.

2. The directions under which you act do not come from Sir Charles Barry at all; from whom do they come?
From the Office of Works; from the Chief Commissioner, as head of that office.

3. Has Sir Charles Barry no charge whatever of the ventilation of either House of Parliament?
No, he has not.

4. Since what time has that been the case?
Since November 1852, as regards the House of Lords; but as regards the House of Commons and the contiguous apartments, Sir Charles Barry never had the charge of the ventilation.

5. How long has Dr. Reid ceased to have the charge of the ventilation of either House?
Since November 1852, when I was appointed; but Dr. Reid never had the charge of the ventilating arrangements made in the House of Lords.

6. Was not the apparatus by which the ventilation of the House of Lords is now managed set up under the direction, and from the plans, of Sir Charles Barry?
It was.

7. Sir Charles Barry is, therefore, cognizant of the whole scheme of ventilation, although he no longer personally inspects the working of it?
He is.

8. You were examined before the Committee that sat upon the lighting of the House in the year 1852?
Yes, I was.

9. You are, therefore, aware of the report of that Committee?
I have not read the report for some time, but I think I know it.

10. But at that time you were aware of it?
Yes.

11. Were no steps taken by any parties to carry out the proposals of that Committee?
I took steps to carry out a portion of the proposals of that Committee, so far as they related to the matters that were under my charge.

A. Meeson, Esq.

17th March 1854.

12. What were those matters?
The lighting by gas; a portion of those things that were recommended by that Committee have been done.

13. But you did not consider that you had anything to do with the change recommended in the windows?
Nothing.

14. As regards the change of gas, the Committee recommended that cannel coal gas should be substituted for the gas used; has that been done?
That has not been done.

15. What changes were made?
The changes that were made were the increasing the branch main of supply to the House of Peers, to give more pressure and a better supply of gas; the improving the burners of the House, and the altering the glasses to prevent fractures that used frequently to occur; and putting the lights with the common gas into the best mode in which they could be put.

16. Were those changes made soon after the report of the Committee of 1852, in the winter of 1852–53, or have they been made lately?
Those changes were made soon after the report, from time to time; they have been improved since that period: for instance, the glasses have been made of a different material, and there has been a little difference in the size of the glasses and burners; but substantially the alterations were made soon after the Committee of 1852.

17. Are the burners the same as those that were used in 1852 and 1853?
The burners have been altered in accordance with what I proposed to do in that Committee; they have been enlarged and improved.

18. In the alterations to which you refer as being made from time to time, have you received directions from Sir William Molesworth, or have you acted upon your own discretion?
I have acted on my own discretion as to the mode of improving the light, and have reported to the office that I have done so.

19. Why were no steps taken to obtain cannel coal gas?
Because I received no orders from the office to do it. The office were aware of the report of that Committee; and I think in my evidence before the Committee I said that I had not the authority to make so large an alteration as that without the orders of the office, which orders I have not received.

20. Earl *Graham.*] Have they the cannel coal gas in the House of Commons?
They have.

21. Viscount *Canning.*] To what extent do you understand you have the liberty of making alterations?
I have only the liberty of making alterations in such things as are necessary for the proper working of the lighting, &c., as it is in its present state.

22. But still you would measure your power by the expense?
Yes, I should, to a certain extent; I should feel at liberty, if a burner were defective, to improve it, if I thought I could do so at a small expense, without applying to the office. In my estimate for the year I have a certain sum for contingencies put down for such kind of improvements, amounting, perhaps, to 250*l.* in the estimate of the year; and for small things of that nature I feel I have liberty to act without reference to the office.

23. Viscount *Torrington.*] When you put down a larger main, it was because a sufficient quantity did not come to supply the burners?
Exactly so.

24. Since that alteration there has been a very great increase in the consumption of gas?
Yes, the light has been increased very much; as much again as we had previous to the Committee of 1852.

25. Viscount *Sydney.*] What gas do you use?
The common coal gas.

26. *Chairman.*]

26. *Chairman.*] Do you make it yourself?
No; it is obtained from the Chartered Gas Company.

27. Viscount *Sydney.*] Does the same company supply both the House of Lords and the House of Commons?
Yes.

28. That is the company in the Horseferry Road?
Yes; we have independent pipes and mains for supply to this building.

29. The Earl of *Malmesbury.*] Would there have been any difficulty in getting separate gas to each?
No.

30. Then it is not from any difficulty that it has been delayed?
No, not at all; and as far as the expense of the gas goes, the cannel coal would be cheaper than the common coal.

31. *Chairman.*] Does the cannel coal gas go through any purification before it reaches the burners?
It does, at the works of the company.

32. It is the same kind of gas that is supplied to the streets?
Yes; except that we are supplied through a distinct and separate main.

33. But it is the same quality of gas?
Yes; the same as supplied to the public.

34. What is the purification?
It consists of Laming's process of submitting it to the action of some of the oxides of iron and caustic lime, which combine with and absorb the sulphuretted hydrogen and carbonic acid, and become sulphuret of iron and carbonate of lime; and also, the subjecting it to muriate of lime, and frequent washings to combine with and absorb the ammonia; that is the principle of the purification.

35. Lord *Beaumont.*] Is it clear that that is done?
Yes; I have examined it at the works. I test the gas continuously from time to time, and find it very pure.

36. Earl *Graham.*] But still, as compared with the other gas, it is impure?
Not that the common gas is more impure; but it does not contain such an illuminating power as the cannel coal gas.

37. There is a much greater smell from it, is there not?
Not a greater smell.

38. I smell the gas here very strongly in all these galleries, and the smell is very offensive in some places?
If the gas be burnt with a proper quantity of air, or oxygen, there ought to be no more smell from the common gas than from the cannel coal gas.

39. I thought that was one great distinction, that you had only to go into the hall where the statues are, and you would perceive the smell of the gas to be very strong?
That is true, because there is there, as yet, but a very imperfect ventilation; therefore, the products of combustion are collected in that room.

40. *Chairman.*] There must also be very imperfect combustion with that smell, must there not?
Not exactly so; there are products thrown out from the gas even in the purest state and best condition of combustion, which would cause a close and offensive smell. There is the carbonic acid gas, and there is a little sulphurous acid gas thrown out from all combustion of gas.

41. Lord *Beaumont.*] The only thing is to carry that off?
Yes.

42. *Chairman.*] It depends very much upon the burners?
No; according to the quantity of gas consumed, you have a certain definite quantity of carbonic acid gas thrown out; according to the illuminating value of the gas, you have an increased quantity; no burners will alter that.

 43. Viscount

A. Meeson, Esq.
17th March 1854.

43. Viscount *Torrington.*] Do not the brass and gilt arms amongst the burners become very hot?
Yes.

44. Close down to the woodwork?
Yes.

45. How far does the heat extend?
Considerably down; but just as the branches enter the woodwork, the pipes pass into the wall; they are then built into the wall for the rest of their course downwards, so that they are in the solid wall.

46. *Chairman.*] Has not some of the woodwork become changed by the heat?
I am not aware of it.

47. Viscount *Torrington.*] If not changed, approaching to changed?
I think not; there is none of it that I am aware of approaching to that state.

48. *Chairman.*] Do you apprehend that there is any danger from the heat?
I think not, but there is great inconvenience from it, no doubt, in the House.

49. From the heat?
From the heat of the present lamps.

50. Do you think the change to cannel coal would materially alter that?
It would reduce it very nearly one-half.

51. Lord *Beaumont.*] In the amount of heat?
Yes, in the amount of heat; it would be nearly as 12 to 20.

52. Do you think that if you had open burners the heat would be greater?
Not if the ventilation of the House was going on, because the heat then is carried away vertically, and you get rid of the radiant heat from the arms, and part of the burners. I have lately made some very careful experiments, which, if the Committee desire it, I shall lay before them, as to the radiant heat of those lamps.

53. Viscount *Torrington.*] You are aware of the burners next the bar?
I have suggested to Mr. Farraday a means of keeping the burners and branches much cooler than they are at present, by admitting a certain portion of atmospheric air at the lower portion of the branches, and allowing that atmospheric air to pass through the space between the ventilating pipe in the brass arm and the arm itself for the supply of the burner with atmospheric air. That is an experiment as to the amount that it will reduce the temperature of these brass arms and burners.

54. The proposed alteration is an admission that the brass arms are much too hot?
No doubt of it; that cannot be denied.

55. *Chairman.*] The heat of these brass arms, as it affects the heat of the House, cannot be of very great consequence?
They radiate very prejudicially. I will put this case: to elucidate this, the House sits all day long, and the Lord Chancellor requires it to be kept at 65 or 66 degrees, a good temperature; the House meets again at five o'clock; the gas is lighted, and in one hour the thermometer runs up seven degrees.

56. Earl *Graham.*] That is the effect of the gas?
Yes; that shows the difficulty of dealing with the ventilation of the House with the heat of the present lights.

57. Viscount *Torrington.*] Before the lights are turned up, the brass arms get exceedingly hot too?
In the day, before the lights are turned up, the brass arms are not so hot; still they are warm, but not enough to affect the House prejudicially.

58. Do you think that the alteration to the cannel coal gas would reduce the consumption of gas one-half in the small burners?
No, not quite one-half, but nearly so.

59. Viscount *Canning.*] You spoke in the proportion of 12 to 20?
Yes.

60. You apply that to the diminution of heat?
There would also be an increase of light with the same consumption of gas.

61. Does it follow, that because the diminution of gas is in the proportion of 12 to 20, that the diminution of heat should be in that proportion?
It is very nearly.

62. Would it not be the case if you used cannel coal gas; you would still have the same number of gas-burners and flames of very nearly the same diameter and heat?
Yes; but you would use less gas; you would consume a less amount of oxygen. The heat may nearly be measured by the quantity of oxygen that either the one or the other gas would consume in combustion. It is exceedingly difficult to keep a room of large dimensions cooled, whilst the source of heat is continually going on.

63. Viscount *Torrington.*] You could cool it in a moment if the windows were opened, could you not?
No.

64. *Chairman.*] Have you prepared any returns for the information of the Committee?
I have prepared returns by order of the Office of Works, I presume for this Committee.

65. Will you be good enough to state what those returns are?
I have a return of the hourly cost of lighting the two Houses of Parliament; distinguishing the quantity of gas used in each House.

66. Does that return include the corridors, or only the Houses?
The return includes the corridors, which are considered part of the Houses. I have also a return as to whether the gas used is ordinary coal, or gas made from cannel coal, and from whence supplied. Also a return of the number and description of gas burners used in the two Houses of Parliament. Also a return of the number and description of burners used in each separate hall, apartment, corridor and office in the Houses of Parliament. Also a return of the quantity and cost of oil in use, and also the quantity and cost of sperm candles. Also a return of the annual cost of lighting the Palace at Westminster, distinguishing the different sums paid for gas, oil and candles.

67. Hand in those returns, if you please?
I will.—[*Vide* Appendix A.]

Appendix A.

68. Will you be good enough to describe to the Committee the present process and appliances for ventilating the House of Lords?
The House of Lords is ventilated by air supplied from the Victoria Tower. The air is brought in a channel to the north end of the House of Lords; it is there passed through a fan, which propels it under the House of Lords through a channel, or two channels rather, to the ceiling of the House of Lords, and from thence it is supplied, through the central division of the ceiling, into the House, and it is withdrawn from the House on each side through the side divisions of the ceiling.

69. How withdrawn?
Introduced into the House in the centre compartment of the ceiling, and withdrawn on either side of the ceiling.

70. Earl *Graham.*] There is also air supplied from the bottom of the table, is there not?
Yes; a small quantity of air is supplied at the table.

71. Viscount *Torrington.*] That also comes from the Victoria Tower; and some is supplied at the two ends of the benches?
Some is supplied through the pannelling at the ends of the raised seats on each side of the throne, and also by the sides of the throne through the doors that close the passage behind the throne.

 72. Are

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72. Are all these airs coming in at the same time?
A very small quantity is ever admitted round the throne, and at the small openings through the pannelling at the end of the raised seats.

73. What is the quantity that comes down per minute from the centre?
That depends upon circumstances.

74. But what is the average?
It is difficult to say the average; it varies, during the night, from perhaps 4,000 cubic feet to 5,000 or 6,000 cubic feet.

75. *Chairman.*] It varies, not only according to the attendance of the House, but the state of the weather also?
Exactly so.

76. Earl *Graham.*] It varies also according to the way in which it is worked; you drive in more at times than at other times?
Yes; but that is under perfect regulation by means of valves.

77. Viscount *Torrington.*] You stated, in your former evidence, that the supply is 8,000 cubic feet a minute, but that you could put in 20,000 cubic feet a minute?
That can be done, but it seldom is done.

78. The air is wetted, is it not?
Yes.

79. What is the object of wetting the air?
Because all air that is raised much in temperature has its capacity for moisture increased, and to make it wholesome and agreeable, requires an additional amount of moisture to be imparted to it. It is found, if there be a break in the hygrometer of more than six or seven degrees, the air becomes dry, and very unpleasant to the feelings; it then carries off the perspiration too rapidly.

80. Are you quite satisfied that the air would come by the force of the pump to the bottom of the floor?
Yes, but not so much by the force of the pump as by its gravity.

81. By that means, would not the foul air be prevented from going over the sides?
No. The air descends by its own gravity in the centre of the House while the sides are ascending; therefore it comes down to the lower part of the House before it expands itself to ascend again.

82. Then the people at the side of the House would breathe the air of those who sat in the centre?
No, I think not, because the air ascends from each person, even through a descending current.

83. Earl *Graham.*] Is there no air admitted underneath the lower benches?
None is admitted; there are valves for that purpose; a very small quantity may leak through the valves; no air is intended to come from the floor of the House at all, excepting through the sources mentioned.

84. There is a lateral draft; you can feel one side of your face cool whilst the other is hot?
In what part of the House is that?

85. Just in the centre of the House; I have felt it over and over again; I have held up my handkerchief, and even that was slightly affected?
There is a large supply of air to the bar of the House, and to the gallery at the north end of the House, and it may be that your Lordship felt the quantity there coming forward into the House.

86. Viscount *Torrington.*] Do you not think that if the whole of the room were given to the carrying off the foul air, and that air was supplied naturally and artificially, that the House would be better ventilated, and the air more generally equalled?
The object of taking the air from the ceiling was as much as possible to prevent the inconvenience of local draughts and local eddies of air being brought against the persons sitting in the House. If you admit the air from below entirely, you must

must increase these evils from the air being admitted somewhere about the person.

87. Do you not think it is very difficult to equalize a number of currents coming in in a different way?

I do not think you have a number of currents coming in a different way; the principal current is from the ceiling; there is also a supply from the strangers' bar; but those currents do not affect the main cause of the air at all.

88. The Earl of *Malmesbury.*] Do you consider that air of a pure character is conveyed into the House at present?

I think it is.

89. Because a general complaint is that there is an unwholesome feeling about the air we breathe, and that it very often creates drowsiness and heaviness?

I think it is possible that a great deal may be attributed, not so much to the air, as to the effect of the heat that you experience; I do not know whether in the day sittings you feel this effect of the air; I think it is rather at night that the effect is perceived, and that arises from the radiation on the forehead and person from the heat of the lamps rather than from any change in the nature of the air in the evening.

90. Earl *Graham.*] The heat of the lamps can scarcely affect the radiation; it may affect generally the heat of the House, but it cannot come upon the person like the effect of a fire?

I think the radiation is very great indeed.

91. *Chairman.*] Is there no artificial heat supplied to the House?

There is artificial heat supplied to the air before it enters the House.

92. Is the air that comes down from the Victoria Tower, and which is therefore admitted at the top, heated?

The air is warmed when there is a necessity for it.

93. Viscount *Torrington.*] But it is cooled again?

No, it is not intended to be cooled again; it has water applied in its course, for the purpose of permitting it to take up a portion of the moisture that it needs.

94. Earl *Graham.*] If it is heated air, it ought not to descend?

It is heated to a less degree than the temperature of the House. Supposing that it is 32 degrees out of doors, it would be impossible to send air at a temperature of 32 degrees into the House of Peers; it must be raised to 60 degrees, while perhaps the heat of the House is 64 degrees.

95. I thought it was actual heated air for heating the House?

No; it is tempered a few degrees less than the air in the House itself.

96. *Chairman.*] When Peers complain of cold, do you heat the air more?

More.

97. How quickly can that be done?

It can be done in ten minutes or a quarter of an hour; it is not wise to do it rapidly.

98. Viscount *Canning.*] Occasions might arise when the temperature of the House is much colder than we wish it to be, and when it is necessary to introduce warm air, how happens it that you have the warm air coming to the bottom instead of remaining then at the top?

Because it is colder than the House itself, even when you feel cold. But, besides the power of warming the air that is admitted, the whole of the floor of the House is composed of iron covered with lead. There is a warming apparatus, by which any amount of heat can be given to conduct through the floor of the House; not to suffer the heat itself to go through as heated air, but to conduct the heat through the materials of the floor itself, and to make the whole floor a warm floor.

99. Viscount *Sydney.*] When there is an offensive smell, is that from the chamber below?

If there be a smell, I imagine it must be; but I do not think the temperature

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there is raised to such a degree as to produce any smell. The highest amount to which we ever raise it is 68 or 70 degrees.

100. *Chairman.*] Peers sitting on the left-hand side of the House complain of a smell coming from a kitchen or scullery; how do you account for that?

I really cannot tell, unless it is drawn by some draughts from the corridors. I cannot imagine that any smell could get into the supply of air itself. I have done a great deal this last Session to purify all the channels of supply to the House of Lords.

101. What is the nature of what you did?

The things that I have done during the last Session were to cleanse the drains from one end of the building to the other; I have had them opened and thoroughly cleansed and put in good order. The vault through the long channel that comes from Victoria Tower has been plastered and cleaned in a sufficient manner to keep it quite pure. The supply channel under the House itself, instead of being of cement, which was rather offensive, and used to smell offensively, has now been paved with slate.

102. But is not the air, as it is conducted from the Victoria Tower to the roof of the House, protected from all drains and other nuisances of that kind?

Entirely.

103. Is it conducted in a tube?

It is conducted in a large channel about 12 feet wide by 12 feet high.

104. A tube of brick?

Yes.

105. Viscount *Torrington.*] Does the air, as supplied, come over iron or earthenware?

Over iron, which is covered with a coating of shellack.

106. There is no earthenware?

There is no earthenware.

107. Earl *Graham.*] You have stated, that when the lights were lighted, they would shortly raise the temperature seven degrees?

Six or seven degrees.

108. Supposing it to be an evening of an important debate, when there is a great rush of people coming in at one moment, then the heat becomes very oppressive?

It does.

109. You stated that you could not very suddenly alter that temperature?

If you take the cubical contents of the House, you must throw an enormous quantity of air in per minute to change the volume of air that is in the House very suddenly.

110. Do you not think that some other arrangement, such as opening a window, would in such a case be advisable?

You would not be able to bear it. Even when the small windows in the corridor have been occasionally opened, there have been complaints of draughts; the cold air rushes down on the Peers' heads.

111. *Chairman.*] Are not the windows frequently open now in the corridor at the back of the gallery, and the doors also left open, on purpose to purify the House?

Yes; but from the pressure put on, that acts as a discharge from the House, not as a supply. If you will try that any night, you will find that the air is always rushing out of doors, not coming in.

112. It would have the same effect if it were a window of the House, would it not?

It would remove the air at the wrong point; it would let out the fresh air at the top of the House, without its coming down to you.

113. Viscount *Canning.*] You describe the fresh air as coming into the House along the middle compartment of the ceiling, and going straight down towards the floor of the House?

Yes.

114. Then

114. Then spreading over the benches, and after that has become foul air, rising up along the walls?
Yes.

115. That being the case, if a window is open, will not that window let out the air which is nearest the wall?
Undoubtedly.

116. And will not that air be the foul air that has been consumed?
Yes; but if the window were opened, the fresh air would go across in all probability to the large outlet of the window, and so escape by that means, instead of forcing the warmer air to ascend to the ceiling. By that means it would cut off the upward course of vitiated air that those in the House have breathed, instead of supplying them with a downward current of fresh air.

117. Would not the window be rather fed by the consumed air that was rising up from the House towards it than by the heavy air, the tendency of which is to come down from the ceiling?
Yes, it would take it away; but if it were an opening of any magnitude, it would also take a portion of fresh air.

118. Supposing it were not a whole window open, but an aperture in a window, such as we have in this room?
That would not be objectionable; it would be an outlet of air.

119. It would, *pro tanto*, expedite the disappearance of the foul air, and make room more quickly for the fresh air?
It would, but we feel no want of sufficient discharge for the air; there is plenty of space and capacity in the discharge at the sides of the House to take away all the air that can be forced in. It would be only transferring a certain portion of that through the window, instead of through the ceiling.

120. Viscount *Torrington.*] You do not mean to say that, if you opened a window, no cold air would come in?
If the wind set violently on one side of the building, then it would come in, because the power of the wind is superior to any mechanical power that we have.

121. In every ordinary room in which we live, we always find that the opening of a window lets fresh air in?
Yes; but ordinary rooms are under different circumstances to the House of Peers, which is subject to the fan. In all ordinary rooms you have a fire, which is extracting a certain portion of air from the room, and the room is in a partial state of vacuum; the pressure in the room is less than the external pressure of the atmosphere.

122. Earl *Graham.*] If this room had no fire, and were extremely hot and close, and the air in the passage were much cooler, if you put the door open, you would find the cold air coming in at the bottom, and the heated air at the top, would you not?
Yes, that would be the case. If the pressures in the room and in the corridor were equal, it would then merely exchange itself by the difference of its gravity; but if there were pressure in this room, and not an equal pressure in the corridor, instead of exchanging by its gravity, the whole area of the door would be a discharge from this room, till the balance of the two was established.

123. Viscount *Torrington.*] Suppose the House adjourned for an hour, and you opened a door on both sides, surely you would be able in a short time to cool the House, and make it in a comfortable state for the Peers when they met?
We should be able to throw in an increased quantity of air, and could approach, perhaps, to the 20,000 cubic feet a minute, which I have mentioned could be thrown into the House; there would be that advantage in it.

124. Earl *Graham.*] How does the foul air go away when it gets through the ceiling?
The foul air is collected into two large chambers, and is carried to a shaft; and one of the improvements which I have made since the last Session is to introduce two additional discharges, for the greater facility of getting rid of the air; it is carried off with greater ease through the ceiling. I do not think there is any force

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force applied to keep the air back at the ceiling; the constriction is in the shafts, which are now more than sufficient to carry off all the air that might be required.

125. Viscount *Canning.*] Where is the air damped?

Partly in front of the fan, and partly in the channels that go under the House, which are paved with slate, and again at the upper part of the House, by means of a large surface of canvass, which is always kept moistened with water.

126. Viscount *Torrington.*] Do you not consider that the hot air that comes over earthenware or china is less injured than that which passes over iron?

If the temperature of the iron be very great, it will destroy the air. So also with regard to china. In the House of Peers the air is not really in contact with iron. I think a surface of shellack varnish is quite as harmless to the air as china would be.

127. Earl *Graham.*] Is any part of the air heated to any great heat?

No; the greatest temperature that we get at the heating apparatus is 100 or 120 degrees.

128. The air gets to that?

Not the air, but the heating surface; the air, from the rapidity with which it passes over these surfaces, does not become so hot.

129. Viscount *Canning.*] What temperature is it admitted into the House?

From 60 to 62 degrees.

130. Viscount *Torrington.*] What is the thermometer in the chamber when the foul air goes out?

That depends upon the number of people in the House.

131. But ordinarily?

At night it is 72 degrees.

132. Earl *Graham.*] Many nights this year, the thermometer, where the draught comes at the table, has been 70 degrees?

No doubt; but that is not from the heat of the air, but from the radiation of the lights. I have experiments which will show at once the amount of radiation proceeding from the lights, and its effects in different parts of the House. That is to say, with the burners as usually used in the day, but without any ventilation going on in the House, without the fan at work, but with the valves all left open at the table of the House, the thermometer was 61¾ degrees. In three hours after the lights were turned up, it was 68 degrees.

133. Viscount *Canning.*] Was that with a full House?

No, an empty House; there is a rise of 6¼ degrees, 4¾ of that rise being in the first hour.

134. And the thermometer being placed at a spot as distant as possible from the lights?

As distant as possible from the lights. In the gallery there is also an increase of 6¼ degrees in three hours.

135. Viscount *Torrington.*] Does not that lead you to think that the burner is not always the best calculated for the House?

Insomuch as it carries off the products of combustion, it is most excellent; but as regards the heat, it requires a modification.

136. Supposing the gas was purified before it came into the House, and burners of a different description were used, that did not make too great a radiation of heat, would not that be beneficial?

Yes; so far as they got rid of the heat.

137. Supposing you got the same amount of light, would it not be better?

Yes.

138. And an even light?

Yes, an even light; but I do not wish to be understood to say, that the products of combustion, even from a very perfect burner, should be discharged into the House without being carried off.

139. Supposing

139. Supposing this could be proved, you would admit it to be a better burner; supposing the combustion were proved to be complete, and that there were no injurious properties from the gas being purified before it came into the House?
You would have carbonic acid gas and nitrogen of the atmosphere diffused into the room.

140. Supposing it has been proved in the Post-office or in the "Times" Newspaper-office that all those injurious things are avoided before the gas comes into the burners?
I do not think that possible to be the case; if you have combustion you must have carbonic acid gas from any material whatever containing carbon.

141. Have you ever seen the purifier at the "Times" Newspaper-office?
I have not.

142. You have heard of it?
I have heard that they have a purifier; I believe it is one of Mr. Leslie's purifiers; I know the nature generally of what it consists, but I do not know in particular the nature of it.

143. Have you seen the report which has been placed on the table of the House respecting the lighting of the Post-office?
I have not seen the report; I have seen extracts from it.

144. Earl *Graham.*] When you speak of the thermometer on the table rising from 62 to 68 degrees, have you put any thermometer near the brass burners to see what its state was there?
Yes; I have the result of an experiment in my hand that will show that. At a distance of 9 feet 6 from the light at the commencement of the experiment the thermometer was 64 degrees; in three hours after the lights were turned up it was 72½ degrees; and when I took the covers off the lamps and let them burn as an ordinary light would do, in which case the brass arms and the tubes would not then get hot, the thermometer under the same circumstances was 62¾ degrees at the commencement, and 67¾ degrees in three hours afterwards, the one being a difference of 8½ and the other a difference of 5.

145. Viscount *Torrington.*] In the return published for the use of the House of Commons, I find it stated, "I beg to acquaint you that there is a great and marked improvement in the sanitary state of the Foreign Office, hot blasts of air formerly so much complained of no longer exist; the rooms are much better lighted than they were before." That is from Mr. Leslie's burner; have you ever seen that burner in operation?
Yes, I have.

146. Have you ever seen any experiment made with regard to the chimneys?
Yes, I have seen his burners.

147. Do you think well of his burners; would the chimney properly regulated give the same amount of light as one of those that you now use in the House?
I think not.

148. *Chairman.*] What do you think would be the effect upon the House of Lords generally if there were a greater number of windows open to the external air?
I think in some states of the weather it might be very pleasant and agreeable; in other states of the weather it would be intolerable; I think you would lose to a great extent the command of the temperature of the House, and also the command of the currents of air in the House.

149. The air is not heated at present by any flues, either hot water or otherwise?
It is not.

150. Do you remember the old tapestry chamber of the House of Lords?
No, I do not.

151. Do you not think that, generally speaking, an apartment that has a fire, and the capability of opening windows, superior to any other kind of ventilation?
For a private room and residence with few people therein, I should say it was; but for a large hall, a hall of assembly, I should say not, for the reason that the

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air let in by the window must necessarily be of the temperature of the external air, and the fire can only radiate partially in a large room; therefore the room would be exposed to draughts, and would be subject also to the want of general warmth. Some people who of necessity were obliged to sit in a particular part of the room would be cold, whilst others near the fire would be warm enough, or too warm.

152. Practically, without a movement, can you have any ventilation for any room in this climate with a sufficient supply of air for a number of persons?

It would be a matter of difficulty.

153. Is it not impossible?

It is a problem that has never been solved.

154. Is it not impossible, inasmuch as you must have vitiated air going out and fresh air coming in, there must be more or less a movement?

There must be a movement in the air. The great thing is to find such a mode of admitting the air that it shall not be personally objectionable to any one seated in the room; that is the great secret and the great difficulty of all ventilation.

155. Viscount *Torrington.*] For any room, however large, in the House of Lords, would it be an advantage to ventilation to have a fire in it?

As far as the quantity of vitiated air from the lower part of the room was carried away, it would; but it would not remove the vitiated air above a certain level.

Ordered, That this Committee be adjourned till Tuesday next, Three o'clock.

Die Jovis, 23° Martii 1854.

LORDS PRESENT:

Marquess of Lansdowne.	Viscount Canning.
Earl Graham.	Lord Ponsonby.
Earl of Hardwicke.	Lord Ardrossan.
Earl De Lawarr.	Lord Somerhill.
Viscount Torrington.	Lord Stanley of Alderley.
Viscount Sydney.	

THE LORD SOMERHILL in the Chair.

ALFRED MEESON, Esquire, is called in, and further examined as follows:

156. *Chairman.*] THE Committee wish to direct you at once to put yourself in communication with the Gas Company that now supplies gas to the House, and with any others you think necessary, in order to enable you, with as little delay as may be convenient, to report to the Committee upon the practicability of substituting cannel coal gas for the gas now supplied during the Easter Recess, and an estimate, as nearly as you can make it, of the expense. They further wish you to communicate with Sir Charles Barry, with the Board of Works, and with such other persons as you may think desirable, respecting an alteration in the windows; to substitute for the present stained glass, glass less stained, and of a different character, such as Sir Charles Barry thinks might injure the effect of the building; so that you may be able also, within as short a time as may be convenient to you, to report to the Committee what would be the general expense of such an alteration, the probable effect of it, and the time which it would require to complete it?

I will make a report. May I ask if, in the estimate for employing cannel coal gas, I am to understand that it is to be applied to the whole of the building, or to the House of Peers alone.

157. Do you think that it is, in general, good economy to use that gas, instead of the other?

I am afraid that it is not economical, if it be not very carefully burnt.

158. Would it be practicable, and not inconvenient, to use it in the House and robing-room, and the lights immediately joining the House, without having it in the corridors?

It would be quite practicable.

159. Viscount *Canning.*] Would there not be this difference, that for the two sorts of gas to be consumed we must have two mains from the gas-works here; whereas if the change throughout the entire building was from common to cannel gas you might use the main already laid down?

The only difference would be, that as there is a main in the street, which, under any circumstances, we must use for the House of Peers, a very short addition to it could be made, and then it would supply the whole building. But I think it should stop short at the House of Peers, so as to supply that House.

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160. Viscount *Torrington.*] Why do you object to the use of cannel coal gas excepting in the House of Lords?

It is inconvenient in ordinary use, because it is so highly charged with carbon, that unless it is adjusted to the exact amount of oxygen required, it smokes like a camphine lamp.

161. It requires a good burner?

Yes, and the adjustment of a good burner.

162. It requires great attention?

Yes.

163. Marquess of *Lansdowne.*] Supposing the passages to be supplied with the present gas, while the cannel coal gas is used in the House of Lords, producing less heat, would not the heat of the passages, more or less, find its way into the House of Lords, so that the object would be but imperfectly accomplished?

The passages and corridors of the House of Lords should be supplied with the same gas.

164. Lord *Ardrossan.*] Would you have to construct a long main to enable you to bring in the cannel coal gas?

No; about 70 yards.

165. And the expense of that would be very trifling indeed?

Perhaps 50*l.*

166. Earl *De Lawarr.*] Practically, are you aware that any difficulties or inconveniences would arise to the House of Lords from the use of cannel coal gas?

I am aware of none whatever.

167. Viscount *Torrington.*] A great many burners in the large lobbies are of a very inferior description, being tubes with mere holes drilled in them; in those that are high up, the gas cannot be adjusted?

I think not; they consist of fish-tail burners screwed into the tubes. A fish-tail burner will consume the cannel coal gas as well as any other burner, if it be properly drilled for it. But the difficulty with cannel coal gas used generally is, that it is so highly charged with carbon, that a passing current of air in a moment causes it to discharge the soot and smoke from the burner so rapidly, that it becomes a nuisance, especially if it be burnt up to its right point of combustion.

168. Earl *De Lawarr.*] Accidents have not occurred at the House of Com mons from the use of cannel coal gas?

No. Wherever there are special attendants to see that everything is kept in proper order, it is most desirable; but in offices and in passages, where gentlemen turn it as they like, and leave it, a little increase of pressure would cause it to smoke, and when they returned they would find their papers covered with soot.

169. Viscount *Torrington.*] Does it flare with the opening and shutting of the doors?

Yes; the least change in the current causes it to smoke.

170. Gas companies are generally opposed to making gas of cannel coal, are they not?

I do not know that they are: they would as readily supply you with cannel coal gas as with common gas, if you paid the extra price for it, a price above that of the common coal gas: one is 4*s.*, and the other 5*s.* 6*d.* per thousand feet.

171. Marquess of *Lansdowne.*] You say, that the omission to supply the cannel coal gas hitherto has not arisen from the expense; you state that it would be cheaper than the common coal gas?

Yes.

172. In what sense?

It will give more light, in proportion to its cost, than the common coal gas.

173. Lord *Ardrossan.*] And it is much less likely to damage the ornaments of the House?

I think nearly the same effect will be produced by both gases, if burned in an open burner. I think, on the whole, if the same quantity of gas were burnt, it would

would be more likely to be prejudicial, because there would be more carbon and carbonic acid gas given out. *A. Meeson, Esq.* 23d March 1854.

174. Marquess of *Lansdowne.*] As the same amount of light would be produced by a smaller quantity of gas, would not, in that proportion, the effect upon the ornaments of the House be less?
Yes.

175. Is the Committee to understand that the brass arms would be less heated with cannel coal gas?
Yes.

The Witness is directed to withdraw.

MR. JOHN LESLIE is called in, and examined as follows:

176. Viscount *Torrington.*] YOU have been employed in lighting and ventilating the Post Office? *Mr. J. Leslie.*
Yes, I have.

177. When you took charge of the lighting and ventilation there, there was a vast quantity more burners in the building than there are at present?
Many hundreds.

178. And the consumption of gas was much greater than it is now?
Enormously so. I can give you the exact numbers I have taken: supposing such a question likely to be asked I have a comparison of the quantity, price and cost of gas consumed in 92 days, from the 21st of December 1846 to the 23d of March 1847, at the General Post Office—common coal gas, prior to the introduction of my patents—with the corresponding 92 days, from the 21st of December 1853 to this morning at nine o'clock, of cannel coal gas, purified and consumed under my patents. Under the old system, in those 92 days there were 3,190,550 cubic feet of gas used, at 7*s.* a thousand, making 1,056 *l.* 16 *s.*; under the present system, in the corresponding 92 days ending this morning, they have used 1,539,600 cubic feet, which, at 5 *s.* 6 *d.* a thousand, amounts to 423 *l.* 7 *s.*, making a difference in the quantity of gas used of 1,479,950 cubic feet, and 633 *l.* 9 *s.* in money difference. But there are a vast number more offices lighted now in the Post Office than there were in 1847.

179. And there is also a greater amount of light?
I believe it is considered that there is nearly double the amount of light. In the first instance, such was the deficiency of gas, that they were about to put down a 12-inch main from the works, instead of a 6-inch main, and they were obliged to use two meters: there was a reserved meter in the first instance; but such was the unsatisfactory state of the light then, that they were obliged to use both supplies at both meters. Consequently, notwithstanding, with the increased amount of business at the Post Office since 1847, we have done the lighting for the last 92 days for 633 *l.* 9 *s.* less than in 1847, the difference in the price of gas being 18 *d.* a thousand. In the first instance it was 7 *s.*, and at the present time it is 5 *s.* 6 *d.*

180. What is the temperature of all the rooms comparatively with what they were previously to your alterations?
The most careful account I know of has been given to me from the London district office, where, I think, Mr. Bell has told me that the reduction is from 16 to 18 degrees in the offices under his control.

181. The whole of the burners are of the sort that you call your own?
In almost all cases. In some particular cases where they cannot be used, where there are currents in the basement, they use the common lights; but in all the business departments mine are used.

182. Do you consider that the combustion in your burners is complete?
Yes; I think the combustion is as perfect as can be.

183. Do you imagine that those burners, if used in a highly decorated room, would be likely to injure the decorations, or the gilding of the pictures?
Not if we purify the gas. A most striking fact came to my notice in the House of Lords on Monday evening from Lord Emlyn, who was introduced to me by

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Mr. Walter, and who said that his uncle, Lord John Thynne, for whom we had been putting up a purifier and a set of burners, had told him that the flowers which he received twice a week from the country would not exist in the room where the gas was used prior to the introduction of the purifier; that the effect of the purification and the mode of consuming the gas had been, that the flowers live as well in those rooms burning the gas as they do in any other of the rooms; and he further told me, that Lord Spencer had found all his books nearly spoiled, in respect to the bindings of them, at Althorpe. I thought I would call upon Lord John Thynne this morning, for the purpose of ascertaining the facts; I, of course, had no right whatever to suppose that Lord Emlyn had made an error, but I found from Lord John Thynne that the statement was perfectly true . and I also ascertained from his Lordship that he has a vast deal more light now than he had before. I have ascertained from the meter that he is using 1,200 feet a week, instead of 2,000.

184. What gas is in use there?

The cannel coal gas that is supplied to the House of Commons; so that all that we have done for Lord John Thynne has been simply putting down a purifier, and putting my burners on to all the places that consume gas.

185. Have you seen the House of Lords when it has been lighted up for public business after dark?

Yes; I saw the House of Lords on Monday evening.

186. Do you consider the light in the House of Lords a sufficiently good one?

I do not consider that the House of Lords is lighted at all in a proper manner. I consider that you are burning the gas in the House of Lords, not in gas-burners, but in gas furnaces, with an immense current of atmospheric air, requiring an enormous pressure of gas to get any light, and consequently giving a large amount of radiant heat, which it is almost impossible to get rid of. The great philosophic fact in combustion which I discovered was this, that given amounts of gas require a particular area and configuration of glass to make that quantity of gas evolve the largest amount of light; consequently we have various sized glasses for the express purpose of meeting various conditions. Where there is more light wanted for an individual burner, we do not change the burner, but we change the glass, so as to give a larger amount of atmospheric oxygen at the points of combustion of the gas.

187. Will you be good enough to explain how much or how little your burners will consume, giving an ample amount of light in proportion to the requirements of the room?

Do you mean in money, or in feet of gas, or in both?

188. In both?

I can splendidly light the House of Lords with 250 feet of gas an hour, or in other words 1*s.* 6*d.*

189. *Chairman.*] Do you allude to cannel gas or common gas?

I allude to cannel gas; I should not think of attempting to do it with common gas, because the cannel gas is so much more luminous, double probably the luminosity per volume; and you want in the House of Lords, as every consumer wants, to get the largest amount of light in the smallest bulk of gas.

190. Marquess of *Lansdowne.*] Will you be good enough to state the proportion of oxygen which would be consumed by the use of either one kind of gas or the other?

A much larger amount by the common gas; you would want so very much less of the cannel gas.

191. Can you give the Committee any approximate statement of the proportion of oxygen which would be consumed by one plan and the other?

I should not like to venture upon that.

192. But you have no doubt about the fact?

I have not the slightest doubt.

193. Earl

193. Earl of *Hardwicke.*] Your burner is patented?
There are several patents of mine.

194. You have the entire profits arising from the patent, have you not?
Yes, I have the entire profits certainly, but they are very small.

195. Viscount *Canning.*] You have spoken of one patent; will you explain to the Committee how many you have, and how many of them would be applicable to the service of the House of Lords?
I have, first of all, a patent for purifying the gas (I am not taking them in order); the next is a patent for consuming it by dividing a given quantity of gas into 28 parts, causing that gas to pass up the separate tubes, by which I get a larger amount of atmospheric oxygen at the point of combustion than can be obtained in the ordinary burners. The third patent which I have is for the various sized glasses, to make the smallest possible quantity of gas produce the largest amount of light of which it is capable.

196. Do you contemplate using all those patents in lighting the House of Lords in the manner you have mentioned?
Decidedly; I use them all at the Post Office.

197. Earl *Graham.*] You do not know the number of feet that are consumed now in the House of Lords?
No; I have not the slightest notion: I can only suppose, from seeing the large amount of flame and the rapidity of current which is going on.

198. Viscount *Canning.*] Are you aware of the mechanism of the present burners in the House of Lords?
I think I know it sufficiently to be able to state, that the supply of air to support combustion is independent of the room; that the products of combustion are taken out, independent of the room; and also, that the burner is made to burn with a descending current; that, at the exit of that current, another gas-burner out of the House is lighted, in order to induce the current to descend. Therefore, I can imagine that it is utterly impossible to avoid an enormous amount of radiated heat from the pipes conveying the vast quantity of gas consumed in each of the burners: I have not the slightest notion of what the amount is.

199. The result of that arrangement is, that the products of combustion do not find their way into the House?
They are supposed not to do so.

200. Applying your principle of burner to the House of Lords, and assuming the gas to be purified, it would not be necessary to use that precaution?
Decidedly not.

201. The flame of the gas-burner would be exposed to the atmosphere of the House, just as it is in any other room?
Yes; we should want so small a quantity of gas from what I have seen in comparison, that I imagine you would scarcely know that there was gas burning. I might say that there is one room, very nearly as large as your Lordships' House, that I have done recently; it is the Queen's Concert Room, in Hanover-square. I know the exact amount of gas consumed there, and the amount of light; and, therefore, I speak tolerably well from pretty good data.

202. Notwithstanding the exposure of the flame in your burners to the atmosphere of the House, you would not expect any bad effects to the decoration or gilding?
No.

203. Viscount *Torrington.*] Could you regulate your burners by a chimney to the amount of gas necessary to give a certain quantity of light?
Yes, I could.

204. Viscount *Canning.*] It would be necessary that there should be a purifier set up in the neighbourhood of the House itself, would it not?
Yes; but that is a question of only a day's time.

205. Do you know whether the company that supplies the House, professes to supply gas in a pure state?
Every gas company throughout the kingdom does that.

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206. Do they succeed in doing so?

If I had thought of it, I would have brought down some of the material, after the gas had passed through it, and some before it had passed through it. If the Committee require my attendance again, I will bring some samples in two bottles, in order that they may judge of the substances.

207. Earl *Graham.*] In the Hanover-square Room the light is all in the centre, and there is an open aperture above through which the products of combustion go away?

I cause an ascending current always; I have made that aperture as large as possible, to avoid friction, and I control it in the roof to let it off as the temperature rises below; but we have no admission of air below.

208. Lord *Ponsonby.*] Might not a current of air flung into the House of Lords for the purpose of ventilation make the gas flare a good deal?

I think not.

209. Have you ever been in the House of Lords when currents of air have been thrown in to cool it?

If I am asked any questions about the present ventilation, I should say the sooner it is stopped, the better.

210. Viscount *Sydney.*] If the air is sent in from the roof, would not that affect your burners?

Yes, if the burners were in the centre, under that current.

211. *Chairman.*] Do you propose to put the light for the whole House in the centre?

Supposing I were to go into the House of Lords as a new room entirely, I should. I should want an opening in one of the ornaments that come down of about three inches in diameter; that would be sufficient. One opening down the centre with a circle of light would admirably light the House.

212. One opening of three inches in diameter?

Perfectly.

213. You would have a tremendous stream of air through there?

I should put a pipe through the opening to supply the gas; if you light a room from either side, as the House of Lords now is, the gentlemen sitting in the centre must be at least 22 feet from the light on either side of them. A very much smaller quantity of light from the centre would be much more effective; suppose we take a circle of 8, of 10 or 12 feet in diameter, every part of the House where the Peers sit would be much nearer the light.

214. Than from a light at the side?

Yes: it is not impossible to light it from the side, though I should say by far the best way would be to light it from the centre, for the reasons stated.

215. Earl *Graham.*] If lighted from the side by a number of lamps, you would have more difficulty in carrying off the combustion?

What I understand is, that the apertures at the sides of the ceiling are supposed to be for the exit of the air, and that the centre compartment is for the admission of fresh air. All the centre apparatus could be stopped for a few nights, and then, simply by connecting the two sides that allow the products of combustion and respiration to ascend, they could be turned into one of the shafts in the easiest possible manner, and discharged.

216. Lord *Ardrossan.*] Would not a large centre lustre rather disfigure the House of Lords?

That is a matter of opinion.

217. Earl of *Hardwicke.*] You are entirely dealing with light?

Yes.

218. You do not speak of architecture?

No.

219. Viscount *Canning.*] Supposing an aperture were made in the centre of the ceiling, to what level should you propose to bring down the burners?

I should

I should think it might be from 20 to 25 feet from the floor of the House; I could do it at either distance. My great object would be to get it above the galleries, so that the sight of any persons sitting in those galleries might not be interrupted from the flood of light which there would be.

220. You do not contemplate fixing the light close to the ceiling, as it is in the House of Commons?
Certainly not.

221. Marquess of *Lansdowne.*] But coming down as low as you now state, would it light the lower parts of the House sufficiently for every purpose of seeing and reading?
Admirably; I could very easily: if you like to see the effect of the Hanover-square Rooms, I will have them lighted any night you please, supposing them not to be engaged. I could have them lighted from 10 to 11 on Saturday night.

222. Viscount *Torrington.*] You stated that with 250 feet of gas an hour you could light the House of Lords?
Yes, in any way.

223. Do you mean that you could do it either from the side or from the ceiling?
If you would allow me to bring out the lights a little way from the sides, I could do it.

224. With what number of burners?
I should be inclined to make 50 do the whole, that is, making each burner consume five feet.

225. You would put your burners upon the present branches, I suppose?
Yes, if it could be done without a great deal of trouble.

226. And those branches would not get hot?
Decidedly not.

227. There would be no radiation of heat, as there is at present?
Decidedly not; you could touch any part of them; you might almost touch the burners.

228. Viscount *Canning.*] There are only 32 burners in the House at present?
But they are double burners, of a very large character.

229. There are 32 large double-ringed burners?
That is nearly four times as many as I should want.

230. When you speak of 50 burners, do I understand you that it is necessary to have 50 branches?
No. With reference to lighting the House from the sides, I should be inclined from the place where you bring out two, to have three; but I should in the first instance go to look at the thing more closely.

231. Earl of *Hardwicke.*] Do you remember when I had Lord Eglintoun's house in St. James's-square?
I do.

232. That house was lighted in the hall by a number of gas burners in the centre of the ceiling of the hall, throwing light through panes of ground glass?
Yes.

233. How many burners did you take away at my desire from that light?
I took about half of them away.

234. The light was very much improved, so much so, that I could read the "Times" newspaper with the smallest print, in the centre of the hall, after half the burners were taken away?
We wanted to carry off from the top of the roof the products of combustion, and therefore it was I put in a purifier when we got the cannel gas. What your Lordship says, was the result of having cannel gas, and I was enabled to diminish the burners one-half. It is 45 feet from the floor of Lord Eglintoun's hall to these panes of glass, and the lights are probably a foot above that. I think, as far as I can recollect now, there are 20 lights there, and the light comes through this ground glass.

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235. Earl *Graham.*] You can use your burner without having your purifier, can you not?

Yes.

236. Viscount *Torrington.*] But you would have a much better and purer light by using your purifier, would you not?

Yes: with the permission of the Committee, I will read a letter, which Mr. Brande wrote to my son. I have done two laboratories for the King of Holland. When I was down at Liverpool on Post-office business, my son wrote to Mr. Brande to ask him what he thought of the purifier. The following is the reply of that gentleman:

Royal Mint, 2 December 1852.

My dear Sir,

I am very happy to give my testimony in favour of Mr. Leslie's purifiers and gas-burners, both of which I have now had in use here for a long time. The gas as it is ordinarily supplied is much improved as to purity and illuminating power, by passing through the materials contained in the purifier. The burners are by far the best with which I am acquainted, as respects illumination and economy, and I hear a good account of them wherever they have been adopted.

Yours, my dear Sir, very faithfully,

F. Leslie, Esq.

Wm. Thos. Brande.

Each time that the purifier is cleaned out at the Mint, Mr. Brande keeps the contents himself, and analyses them; and therefore I consider his testimony very much more valuable than the ordinary opinion given by myself, or any other person.

237. Supposing that the consumption per hour of gas was 1,000 feet in this House, what would be the size of a purifier that would be required?

It would not be a very large one; it would not be so large as that case standing in the corner.

238. What would be the cost if it?

I should think it would cost 30*l.* or 40*l.*

239. Not more?

Decidedly not more: as far as I recollect, I put up two for the Post Office, in order that I might have a reserved one. To get that out of the building, and to effect some other improvements which were necessary, including the main cocks which we had to make expressly for them, I do not think the double ones came to more than 120*l.* or 130*l.* We have now a reserved one always ready, in the event of any accident.

240. Are the gas companies supposed to be rather opposed to your burners and purifiers?

Beyond all question.

241. Why is that?

Because in every case we reduce the consumption.

242. Since your report upon the subject of gas consumed at the Post Office, the gas papers have written severely against you, have they not?

Yes; but they have falsified all the figures to do so.

243. Earl *De Lawarr.*] You altogether discard the principle of a down-draught burner?

Yes; because I believe you require a properly adjusted amount of atmospheric air to a given quantity of gas, and that if you make a descending current with a heat at the other end of it, it is almost impossible for you to tell the amount of gas consumed unproductively. We have thousands and thousands of burners with common gas. They had nothing else in the Post Office till the 21st December last but the common gas purified by me.

244. You consider that the down principle would not answer?

Yes, for the reasons which I have mentioned. You cannot limit the amount of atmospheric air to a given quantity of gas; and as you go on increasing the quantity of gas from five-tenths, ten-tenths, fifteen-tenths, or whatever it may be, you will get a little more light, but not in the proportion to the expenditure of the gas.

245. Earl *Graham.*] Mr. Meeson said that open burners reduced the temperature 40 degrees, as compared with others?

The present burners are not made for the purpose of open burning.

246. Earl *De Lawarr.*] Was it not formerly considered that the down flame reduced the temperature?

Yes, prior to my discovery. If I get a light on my principle from two feet of gas, equal to eight or ten candles, and I alter the condition of gas as to its mode of consumption, but not as to its quantity, by putting on a glass differently adjusted, the light is immensely reduced. The more I lengthen that chimney, the less light there is, and the more gas is consumed. Now I argue, that if I make a chimney one inch longer, and I very much reduce the light, and if I make it two inches, there is a still greater reduction of light, what must be the effect of a chimney 20 feet long, with a light at the other end of it, to induce a downward current. When the last Committee sat, about two years ago, it was proposed (I do not know whether it has been done or not) to increase the size of the mains from six to nine inches. I have at the Post Office done the reverse; I have abolished all the six, and put the two-inch mains; so that the gas is now supplied to every department through two-inch mains. It is a very curious experiment to see the effect of different sized glasses on the production of light.

247. Earl *Graham.*] Your glasses are suited to your burners; if you put a short glass, such as you have upon an Argand burner, the light would flare and smoke?

No, it would not; it would have the same effect, and that is one of the reasons why I patented the invention. The moment I made the discovery, I traced on paper the form and cubical content of glass to secure the proper quantity of air that was required for a given quantity of gas. I was then obliged to get the chimney made in two or three parts, and put them together myself. The moment I put the apparatus together, I got the result: I had an Argand burner at the left-hand side; I put it on, and got the same result, and I patented the invention the next morning.

248. I thought the long chimney was most advantageous with an Argand burner?

It is supposed so; but you should see the effect of the experiment upon the meter, where you can see it accurately. I recollect the case of Lord Palmerston calling upon me, and with a small glass he could see perfectly well; but when I put a long glass, I was obliged to bring a candle to let his Lordship see the meter going round.

249. Viscount *Torrington.*] How many wax candles would using your burner to the fullest extent give?

Fifty or sixty.

250. Will it not burn more light, or give a greater amount of gas than 50?

Yes; I could give more light, but I do not think it advisable.

251. You think that 32 of your burners would not be sufficient in the House of Lords?

If the light were in the centre they would.

252. Not at the side?

No; you would want a few more.

253. Viscount *Canning.*] Supposing it was proposed to you to light the House of Lords without disturbing the position of the burners, or adding to their number, do you think that by your system you could give a better light than is obtained now?

No doubt of it; I would not keep them so close to the panels if I were at liberty to bring them out a little; but they are supplied through nine such mains; I think that would be an objection.

254. It might be necessary to change the main?

It might be necessary to control them. I should probably lay out of the nine-inch main a 2-inch main for my purpose, if I so wished it, and I should then put a regulating apparatus on after the purifier, to get the gas to burn just as I wished it to burn, and I should adjust the glass accordingly.

 255. Suppose

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255. Suppose there was no alteration in the distance at which the branches stand from the wall, do you think that by your system that you could light us as well as we are lighted now, and at the same time reduce the temperature and make the light more agreeable?

I do not think I should hesitate a moment about it. I do not know at all what you are consuming.

256. Viscount *Torrington.*] How many burners have you got in the Post Office?

We have lately made nine new rooms. We have probably 800 burners.

257. What gas do you burn there?

Cannel coal gas.

258. Do you burn 1,000 feet an hour?

No, not upon the average; but there they are burning hundreds of lights all day long, and all night too. I can tell you what the consumption has been in 24 hours. From nine o'clock yesterday morning to nine o'clock this morning, there were 13,900 feet used for all the purposes of the Post Office, including about 50 outside lights, that burn all night.

259. Earl *Graham.*] That would be about 580 feet an hour?

Yes; but when they are all burning, I should think there would be about 800. There are 104 rooms, I think, besides the halls.

260. Earl *De Lawarr.*] Suppose you applied your burners to the present branches in the House of Lords, how would you get rid of the products of combustion?

I should get the ascending current that is supposed to be there now, if I could satisfy myself that there was one.

261. You would have an ascending aperture?

If there is the ascending current which I understood, from the evidence before the Committee of the House of Commons, on either side of the House, it would be quite sufficient for me.

262. Earl *Graham.*] But you would require to stop the down current in the middle, which is supposed to give us fresh air?

Yes.

263. Viscount *Canning.*] Suppose the down current to be confined to the middle of the room, would that interfere with your plan?

Not if the burners are at the side; it stops the up current. According to the representations made before the Committee of the House of Commons when I attended them (and I did so every day), and went through both Houses with them, they having asked me to do so, the air was forced in at the rate of 8,000 cubic feet a minute, and it was stated that it could go up to something like 20,000; that there was a 20-horse steam-engine to force this air in; that it came down the centre, and that where it came down to the floor it turned, and left and went up the sides. That was stated two years ago.

264. Earl *Graham.*] It was stated the other day in this room?

I did not know that.

265. Viscount *Torrington.*] With the attention which you have given to ventilation, do you think that a course that is likely to succeed?

I cannot conceive the possibility of it; because if the air is forced in at a velocity through small holes, the moment it is got through those holes it will expand, and will distribute itself all over the quantity, and be one general diffusion, in my opinion.

266. Supposing the whole room divided, and an exit of the foul air, do you think that the House would be at a better temperature than it is now?

It would be ten times more comfortable than it is now.

267. Without any fresh supply of air?

Yes. If you get the products of combustion out of the House into the room above, I would discharge them through a very small aperture, a common fireplace, with a shaft built up; a very inexpensive affair. Then you would get rid of all the products of combustion and respiration at once; there would be a gentle ascending

ascending current into the roof, and according as that current became heated, so you could increase the rapidity of the discharge to keep the temperature down below the shaft.

268. The Earl of *Hardwicke.*] You must have a heated shaft, must you not?
No; we find that we can do without it; and even if there is occasion to have a heated shaft, it is simply to have 20 lbs. of coal burning in a little brick grate; just the smallest amount possible; but those which I have seen here are furnaces at a white heat, to discharge the air in the roof.

269. Have you ever seen the ventilation of a mine?
No, I have not.

270. Many mines are ventilated by simply having two shafts and a gallery, and a fire is placed at one end of the gallery, and the smoke ascends by one shaft, the air by another shaft; that is a most scientific mode of ventilation, is it not?
For that purpose; but I hold that you cannot sit without danger to the person, through any admission of cold air at the top of the room, or by an open window at the top of a room; sooner or later you will find rheumatic fever under such circumstances.

271. Earl *Graham.*] How do you get a sufficient supply of air for a large room with a great number of people in it?
There is a vast deal too much care taken about getting this supply of fresh air which you cannot keep out, and too little care taken in getting rid of the products of combustion and respiration; if you remove those products from the room you will be comfortable.

272. But, practically speaking, you have nothing but the doors to let air in?
Suppose we could get one or two fireplaces in the House of Lords, it would be an enormous advantage.

273. *Chairman.*] Are there fireplaces in the Hanover-square Rooms?
I have there two little circular fire-grates.

274. What are the windows?
The windows at night are all closed in by looking-glasses.

275. What are they during the day?
They are large panes of glass.

276. All closed at night?
Yes.

277. Occasionally opened during the day?
Yes.

278. Earl *De Lawarr.*] What would be the advantage of fireplaces in the House of Lords if they were put up?
In case of a very cold day you could have the fires lighted; the attendants would know the temperature of the House of Lords, and they would regulate the fires accordingly; if those fireplaces were put up, then I should bring in a supply of fresh air to go round the sides and back, and come into the room as fresh air gently warmed. I have done some for the Earl of Burlington in that way at Hooker, in Lancashire, I believe, with very great success; his Lordship wrote me so the other day.

279. Viscount *Torrington.*] Did you do anything at the "Times" Office in that way?
Yes, a very great deal.

280. Were the "Times" Office quite satisfied with the result of your works?
I believe so.

281. You have no complaint of them?
No; there a supply of air comes in all round the fireplace, and there is a discharge at the top of the room; we have ten or a dozen, and there is a constant current outwards.

282. *Chairman.*] Of course these large assemblages at the Hanover-square Rooms, as at other places, vary very much if you have the same admission of air,

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and the same egress of foul air; when the room is very crowded and very hot, can the temperature be kept practically tolerably equal?

Yes; no doubt about it.

283. By the increased current which naturally is created?

Certainly; it goes off by means of a shaft at the top, which is now made to slide up and down as required.

284. Is it delayed snfficiently to become warm when the room is not filled?

I think so.

285. That is found to be the case; you hear no complaint of people being cold when the audience is not crowded?

No; we had an amateur concert there last Monday week, from 600 to 700, and I heard nothing but great approval.

286. Suppose you had only 100 or 200 present?

You might limit the exit of the foul air to an inch aperture.

287. Practically speaking, have you ever been present when there was only a small audience?

Yes; we had a very small audience on the night of the rehearsal; there will be a rehearsal to-morrow night. The room was all lighted the same on that occasion as if the whole of the members were present, consisting of 600 or 700; and if you like to walk in, you can see it to-morrow night from eight till eleven.

288. And will there be no means of heating, in addition to those employed in the room?

Except at those two fireplaces.

289. The room will not be heated?

If it happened to be a very cold day that would be left to the servants.

290. Lord *Ponsonby.*] On a very close night, do you never find it necessary to open the windows?

No; if you did, the cold air would come down upon the heads of the people and cause a great deal of mischief.

291. Marquess of *Lansdowne.*] You hear no complaints there?

We have had 20 meetings. One night you complained very much in the House of Lords; it was a foggy night about three weeks ago; we had a complaint then; since which time we have got the regulation of the admission of the foul air under the most perfect control, and that is by making a sliding frame, regulated by balance weights the size of the aperture, to discharge the foul air.

292. What was the complaint upon that occasion?

I think the complaint was more owing to the extreme cold and fog, but we could not get the fog out of the room by any system of ventilation that I know of. There is there a large apparatus, under the former system that failed, still left in case they wish to send a vast quantity of air through, and that might be when there is a large meeting such as very frequently assemble in the Hanover-square Rooms at two o'clock, and continue till 5 or 6 o'clock; they have, perhaps, 600 or 700 persons there at one time. Then after they have gone and there is another concert, they can, by opening the windows, drive the whole of the foul air out, commanded by the shaft at the top, and in a few minutes the place is as comfortable as possible.

293. Earl *De Lawarr.*] Do you think it desirable to do away with that apparatus altogether?

Yes, I do; I never would allow anybody to pour either heated or cold air by a steam-engine of 20 horse-power over my head or legs if I could avoid it.

294. Viscount *Canning.*] Supposing that the egress of the foul air was provided for as you propose, should you contemplate any new arrangement for the introduction of fresh air, or should you leave it to come in by the present doors?

I should let it take its chance. I am quite satisfied, from all the experience I have had, that you get plenty of air into a room.

295. You think that that would apply to the House of Lords?

Beyond all question.

296. And you do not think that any inconvenience or bad effect would arise from the air not being brought from above the building?
Certainly not; I do not think so.

297. You know that the purpose to which one of the towers is applied is that of introducing air from a high level, and which is supposed to be more pure than that near the ground for the use of the House?
You have had some years' experience of it now, and you do not find that year after year you are getting any better; you would not make these complaints if you were. I do not think it possible to ventilate a range of buildings like this thoroughly by one system or two systems; it is far better to ventilate each room by itself, as I stated in my evidence upon a previous occasion.

298. Earl of *Hardwicke.*] Which should you think was the worse stratum of atmosphere, that at 90 feet from the ground, or that at six feet from the ground?
With an easterly wind, and those chemical manufactories over the way, I should be almost inclined to think six feet from the ground; you have got some of the most poisonous exhalations over the river, floating in the air, directly sitting upon the Houses of Parliament; you have vitriol-makers and others opposite you.

299. Viscount *Torrington.*] Was not the Hanover-square Room supposed to be very badly ventilated and uncomfortable before the alterations?
Yes.

300. The gallery up-stairs was so offensive that people would not sit in it?
It was; Her Majesty was obliged to leave Her box entirely on account of it.

301. And the cost of lighting it now is very much less than it was under the old system?
Yes, very much.

302. *Chairman.*] Have you examined thoroughly the present burners and the branches by which they are fed with gas?
No.

303. The Committee wish you to examine them thoroughly, and to be able upon the next occasion when you attend, to report your opinion of the amount of alteration that will be necessary to apply your burners to the present system?
Will the Committee give me power and authority to go into the roof and examine the mode of discharge through the two sides, because that is necessary. If the Committee give me power to examine the exits of the foul air, and the mode of discharge, I should be better prepared to give the opinion I am asked for.

304. The Committee give you that authority, and will give directions to Mr. Meeson empowering you to go?
I should like to go up after the House has been lighted some length of time; the great object I apprehend would be to keep the House in its present state, with the least possible alteration.

305. Viscount *Canning.*] As the first step?
Yes.

306. Earl *Graham.*] I observe at White's in the hall that the gas is liable to flutter; does the gas in the burners flutter in the Post-office?
No, I believe not; I think it is only at White's in the hall. They have simply put up the burners, without any regulation or any purification; they have been constantly going these five or six years.

307. A common fish-tail lamp is always fluttering?
Its condition of burning is always unsteady; it is always moving.

Ordered, That this Committee be adjourned till To-morrow, Three o'clock.

Die Veneris, 24° Martii 1854.

LORDS PRESENT:

Marquess of LANSDOWNE.	Viscount CANNING.
Earl GRAHAM.	Lord REDESDALE.
Earl DE LAWARR.	Lord SOMERHILL.
Viscount TORRINGTON.	Lord STANLEY of Alderley.
Viscount SYDNEY.	

THE LORD SOMERHILL in the Chair.

Evidence on the Ventilation and Lighting of the House.

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MR. JOHN LESLIE, is called in, and further examined as follows:

308. *Chairman.*] HAVE you brought with you the specimens of which you spoke yesterday?

I produce specimens of the material before the gas passed into it, and of the action of the gas upon it. [*The Witness produces two bottles, one containing a white, the other a black substance.*] The white bottle is acetate of lead, the black bottle is the same after the gas has acted upon it.

309. Lord *Stanley* of Alderley.] After how long a time of exposure to the gas did it become like that sample?

As far as this particular case goes (the black sample) it was probably three months. We have a very large quantity of this (the white) material in the purifier. Now this is an amount of decomposition that hardly any Gas Company would suppose their gas would effect on the acetate of lead divisions of my purifier. It would be difficult without a chymical analysis to say correctly what the composition now is. The original state was acetate of lead, converted into sulphuret of lead and carbonate of lead. Those only are leading features of its present composition.

310. *Chairman.*] The gas is passed into those for the purpose of purification?

Yes; the gas passes through several trays of this material.

311. Therefore, the deposit in that black bottle is a deposit obtained before the gas has been exposed to combustion?

Yes.

312. If exposed to combustion, how much of the noxious matter in the bottle do you think would have been consumed by ignition?

It would all have been consumed if in proper combination with an equivalent amount of ammonia and sulphuric acid; if those two had been present in the necessary quantities, they would have produced sulphate of ammonia; but my purification has, in point of fact, arrested so much sulphur. It would have produced sulphuric or sulphurous acid, with which the atmosphere of the room would have been impregnated but for my process.

313. The abstraction, then, of this amount of noxious matter is a consequence of your purifying system?

Yes; and then all that noxious matter in combustion would decrease the amount of light, that is, render a given quantity of gas less luminous, which is another important feature of my purification, because being non-illuminating portions

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portions of the gas, you would require more gas to be consumed to give the same amount of light. Consequently you would get all the additional products of combustion in the room that were necessary.

314. Had the purification, of which this is the result, been submitted to any purification at the gas-works before it came to your purifying apparatus?

I should have no doubt of it; it most likely went through the lime process of purification.

315. Lord *Stanley* of Alderley.] Was that cannel coal gas, or the common coal gas?

That is a specimen from cannel coal gas.

316. And it is after an exposure of four months that it became impregnated to that extent?

I will not say the exact time, but I should say four months from the ordinary time that we are using the purifiers and changing them. Sometimes we are obliged to do that oftener than at others, when the gas is very bad; say three months.

317. But under ordinary circumstances it requires changing about once in four months?

Yes; but in a private house not so often as that.

318. Earl *Graham.*] That must depend upon the amount of gas passing through?

319. *Chairman.*] Have you examined the present system of ventilation, as suggested by the Committee, that you should do?

Yes; I last night waited in the House till the House rose, and then I went with Mr. Meeson up into the roof and saw all the three compartments, the two sides for the emission of the foul air, and the centre place for the admission of the fresh air. There is a very large amount of opening in all the three divisions of the ceiling, and if your Lordships have not seen them, I may state that they are not small holes; they are a sort of trellis-work, and very large.

320. For admission?

And for emission too; for both.

321. Marquess of *Lansdowne.*] Is it the same size for both?

It appeared to me so from looking at them; but you can see distinctly through any one of them into the House. It looks like an ornamental scroll-work round the four sides of each pannel. I consider that the apertures are sufficiently large to discharge the foul air from the House. Therefore, supposing that your Lordships should be pleased to adopt the system which I propose, there would be no alteration required above the ceiling as regards cutting any of the pannels.

322. *Chairman.*] Do you mean the apertures in the centre, or at the sides?

I mean all three.

323. Would you propose to keep all those three constantly open?

They are open now.

324. They are not always open, because last night having complained to Mr. Meeson of the current of air that played about us, some apertures were closed, and we felt a very perceptible change in a very short time; do you propose to leave them all open?

What I mean is not to have any admission of fresh air from the ceiling; none at all. I stated distinctly yesterday, that I did not think it was a proper plan to have an admission of air coming down upon the Peers from the ceiling, or from an open window at the top.

325. Marquess of *Lansdowne.*] You would leave it entirely open for emission?

Certainly.

326. *Chairman.*] But if you kept all the apertures open, how would you prevent the admission of air?

Because I should control the ascending current by the outlet; a small chimney beyond the ceiling above it, with a very small fire-brick grate, a little bit of fire, six or seven lbs. of coal at a time, not more, with a folding frame that would slip up and down, to control and regulate the emission; two inches, three inches, four inches,

inches, five inches, six inches or a foot, or any larger or lesser quantity. Then when the temperature up in the roof denoted a large increase of heat, you would throw up this flap and let it be discharged; but I should guard most carefully against letting the air down. I should establish a gentle current upwards. The 20-horse power engine forces the air up as well as down, into and out of the house.

327. The present 20-horse power engine?

Yes; as I understand, Mr. Meeson forces the air up as well as down. The foul air is pushed out by a fan as well as the cold air forced in by a fan; and of the three divisions above the ceiling, the middle one has an action downwards, and the same power is made, as it is stated, to ascend through the other two divisions on either side of the House. If the Committee recollect, I said you could stop the centre for a night or two for the experiment, the admission of the air altogether, and you could simply use the two outlets at the side. "Supposing the light were to be continued on the sides," was the question asked me (and this I went, by your Lordships' order, particularly to look at last night) "then the two sides of discharge would be sufficient." If you had a light down the centre of the House such as we have at the Queen's Concert Rooms, Hanover-square, then the whole of the apertures above the ceiling should communicate with the discharging shaft as well. I believe that the great fault of the present system, as I stated yesterday, is, that there is too much care given to bringing fresh air in which will come in, and too little care to get rid of the foul air.

328. Did you examine the branches in which the burners rested?

Yes, I did.

329. Did you perceive great heat?

Yes, they were excessively hot; you could not bear your hand upon them.

330. Was that at some distance from the burner?

Yes, I should think three feet from the burners, you cannot bear your hand upon them.

331. Viscount *Torrington.*] In point of fact, you cannot bear your hand wherever you get to touch them?

I ascertained from Mr. Meeson, that the consumption of gas in each of these burners is from 18 to 20 feet per hour. Now, the largest amount that I propose to consume would be five feet an hour.

332. Marquess of *Lansdowne.*] Assuming the cannel coal gas to be used?

Assuming the cannel coal gas to be used and purified.

333. Lord *Stanley* of Alderley.] To obtain an equal amount of light?

You would have the House much lighter, I think; but I should propose, as I stated yesterday, not to keep the lights exactly in the position where they are, because on close observation (and perhaps your Lordships will observe it to-night) there is a complete shadow under each light, therefore it is that you want, in consequence of that, a considerable amount more of light to overcome that difficulty; and, therefore, it is that I think some ornamental thing might be brought out from the branches, so as to let the light come away from the wall, and to give a circle of light from each burner, and to bring it nearer to the centre of the House, because yesterday I imagined that from the centre of the House where the Peers sit at the table, the nearest point to any one light would be about 22 feet. Now, that is a very long distance for a single light to penetrate; then, the peculiar construction of the burners causes the shadow underneath, which my system entirely avoids, inasmuch as the construction of my burners would enable me to give your Lordships the light without the slightest shadow; there would be no shadow at all from them.

334. *Chairman.*] The light would therefore fall more into the House from a greatly decreased quantity of gas. With reference to the heat, Mr. Meeson explained that the heat was greatly caused by the return of the products of combustion?

The very nature of the thing shows it, and I found from going up into the gallery with Mr. Meeson, that what I supposed was an independent supply of air to the burners to support the combustion is not so, but that the air is drawn from the body of the House through each of the gas burners.

 335. Were

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335. Were you shown the admission of the air through the centre of the table?
No, I was not shown that; most probably I will be able to see that at some other time, but I saw the place where it comes up into the roof from the engine or fan below the House.

336. I am alluding to the table in the centre of the House, at which the clerks sit; in the centre of that table there is an open space, not quite so large as the level of the table immediately before you, or about that size, which is an open grating through which there is a constant current of air arriving at times, and, I believe, generally with great rapidity; it would be desirable that you should examine and perceive the effect of that?
I will examine that to-day. I stated yesterday that I would not, if I could avoid it, allow any air forced in with a 20-horse power engine, either to fall on my head from the ceiling, or to come upon my legs through those apertures; I would stop the whole of them immediately.

337. Through the apertures which I now mention, air does not come, literally speaking, to the legs; it is discharged into the House about three feet from the ground?
I can go presently and look at it whilst your Lordships are examining another witness, and see the Committee afterwards, if your Lordships wish it, but I should stop the apertures to which you allude immediately.

338. Do you not think it desirable to have any windows to be opened at times when the House is not sitting, so as to obtain a general purification of the atmosphere, as I apprehend is the case in the Hanover-square Rooms?
Yes, I think it would be advantageous.

339. Lord *Stanley* of Alderley.] Are you decidedly of opinion that it would be desirable to have windows to open?
Yes.

340. And occasionally left open to purify the air?
Not when the House was sitting.

341. Viscount *Torrington.*] Do not the burners consume an immense amount of air at the present moment?
Yes; if you are to burn in a confined space like that 20 feet of gas an hour, it is something prodigious. I take it for granted that Mr. Meeson is perfectly correct in the statement which he made to me as to the consumption of from 18 to 20 feet an hour. I hardly know the name of the place, but Lord Sydney went with me last night to see it, but there is not a light there equal to any hall light which you would see in a gentleman's house; now I should say that two feet per hour of cannel coal gas would be quite equal to all the requirements from each burner in the lobbies or corridors.

342. Viscount *Canning.*] The light to which you refer is between the two pair of doors?
Yes.

343. It is before you get into the stone lobby?
Yes, it is the light between the doors; it is in the passage from below the bar to the lobby.

344. Viscount *Torrington.*] Mr. Meeson stated in his evidence yesterday that it would not be desirable to have cannel coal gas in any portion of the House of Lords except in the actual House of Lords, not in the adjoining rooms; do you see any objection to that?
All my experience goes to show that cannel coal gas is by far the best artificial light that you can have; it is the best artificial light.

345. *Chairman.*] No matter what may be the currents of the air?
The currents of the air must be regulated accordingly.

346. Mr. Meeson said, that the air was so highly charged with carbon, that, unless it was adjusted to the exact amount of oxygen required, it would smoke like a camphine lamp?
So it would.

347. Lord *Stanley* of Alderley.] More than common gas?
All gases smoke excessively if they are not properly burnt.

348. Lord

348. Lord *De Lewarr.*] He stated, that this kind of gas required more than any other?

So he might; you must supply the atmosphere in proper quantities, and you must adjust it according to the particular requirements of light from each burner. Now, on the right hand side of the House, going from the strangers' bar round to the robing-room, you have a series of lights in the wall, and a series of lights hanging down from the centre of the ceiling; according to the account I got from Mr. Meeson as to the quantity of gas you are burning there, I do not consider that you have got any amount of light; the whole corridors were to me comparative darkness last night.

349. *Chairman.*] And yet the consumption of gas was considerable?

I took the consumption of gas from the return which your Lordships gave me yesterday, and from the questions I asked Mr. Meeson, I think the gas is not properly consumed; there is an amount of waste of gas that is hardly to be calculated.

350. Earl *De Lawarr.*] From the present burners in the House of Lords no part of the products of combustion are discharged into the body of the House?

None is supposed to come into the House.

351. Upon the system of open burners, the whole of the products of combustion would be discharged for a time into the upper portion of the House?

Yes, they would ascend at once and pass off.

352. Would there not, therefore, be an addition for a time of the impure state of atmosphere?

Certainly not; where you are breathing, the products would not have time to mix.

353. But there would be that addition in the upper part of the area of the House?

No, it would have a continuous ascending current when it escapes highly heated, and it would pass off through the continuous upward movement of the whole air that is in the House.

354. Would not all that, which is called the great advantage of the non-discharge the products of combustion into the House, be lost?

I think you lose in every possible way from the present mode of burning the gas, for the reasons which I have already stated. You burn the gas under a very rapid current induced by a very lengthened downward chimney into a brick flue, excited by a gas-light at the other end of the discharge chimney, and you are obliged in consequence to use a very large and unnecessary amount of gas to get the light you at present have. Mr. Meeson says, from 18 to 20 feet of gas per hour through each burner.

355. Are you not aware that the discovery of a down-draught, by discharging all the products of combustion at once into the upper air, was considered in a sanitary point of view of great importance?

It was so at that time, but I consider better means have since been discovered.

356. *Chairman.*] You are confident that the impurities after combustion are all in a state of perfect solution, and would not descend at all?

Beyond all question, the products of combustion will not descend.

357. Earl *De Lawarr.*] Would it be possible to combine the system of down-draught with your system of burners?

I do not think there would be any difficulty about it, but I should never recommend it, because you then want so much more gas to produce the required light than on my system.

358. Supposing it were a question with regard to purity or impurity of atmosphere, would it be possible?

It would be possible, but the atmosphere of the House would be far purer under my system.

359. *Chairman.*] With open burners?

Yes; there is no Gas Company in England but what would say that their gas is perfectly pure, and would hardly admit the possibility of the existence of such impurities in their gas as the sample which I have produced to your Lordships.

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360. Viscount *Torrington.*] All that would be avoided under your system?
As a matter of course it would; by the purification, by the better mode of consuming the gas, and by the improved ventilation.

361. Earl *De Lawarr.*] It is your opinion that the atmosphere will be in a purer state with your burners than with the down-draught?
Yes; beyond all question.

362. Lord *Stanley* of Alderley.] Will you be good enough to state to the Committee why you form that opinion?
In the first place, I consider that you suffer immensely in the House from the radiated heat of these gas burners; then I consider that you would burn under my system a much smaller quantity of gas than you do now, such as three-fourths less, using purified cannel gas, giving an equal amount of light under the system of a proper admission of atmospheric air, and allowing the products to pass off by the ascending current; first of all, supposing that these products are greatly diminished in quantity, and are much less offensive by the purification, because that is one of the most important points, I have no doubt whatever that then the atmosphere of the House would be better than it now is.

363. How do you imagine that the atmosphere of the House would be purer when the products, however pure they may have been made, still contain a great deal of impurity, and will still be distributed in the room; how do you consider the atmosphere to be more pure than if the whole of the products were carried off as at the present moment?
I do not know how I can show it better than by re-stating the fact of Lord John Thynne's flowers, which I mentioned yesterday.

364. Earl *Graham.*] But Lord John Thynne had not the down-draught?
No; but his Lordship has found that his flowers will exist as well in the room that is burning the purified gas under my system, which they would not do before.

365. Earl *De Lawarr.*] Is it not easy to test the two systems in a very small room?
There would be no difficulty whatever, I apprehend, in testing them.

366. But under your system there would be much less actual atmospheric air consumed by the lamp than under the present system?
Yes; beyond all question.

367. Lord *Stanley* of Alderley.] Under the present system there is no portion of the products of combustion that get into the atmosphere of the House?
I think you had better ask that question of those who have the management of the present burners.

368. But I want your opinion?
Supposing the case of glasses breaking, as they did last night, you have then the products of combustion of four times as much gas as is actually necessary under my system coming into the House.

369. But does not the present system proceed upon the supposition that no portion of the products of combustion can get into the atmosphere of the House?
Certainly, it proceeds upon that principle.

370. Then, if that principle be carried into effect, will there not be less impurity in the atmosphere of the House by carrying on the system which at present exists than by adopting your system, which must distribute a portion of the products of combustion into the atmosphere of the House?
No; because, by adopting my system, the three divisions of the ceiling above the House would be made the recipients of all the products of combustion and respiration; they would ascend continuously, and meet with no downward current to mix and bring the products of combustion and respiration back again to be inhaled again by the Peers.

371. We will assume that there are no products of combustion if the plan at present adopted is carried perfectly into effect?
Yes; except what you get from the radiation; I am not at all sure about that.

372. Viscount

372. Viscount *Canning.*] Do you know that the effect of the radiation can be considered at all of the same nature as the products of combustion?
No; perhaps not.

373. The effect of the radiation is only to raise whatever air may come in contact with the pipes?
Perhaps we had better consider it so; but it is a great heat radiating through lacquered brass work.

374. Viscount *Torrington.*] If you have no downward current of air, no products of combustion could come down into our part of the House?
None at all. I would establish a continuously ascending current.

375. Earl *De Lawarr.*] They would all be lodged between the lamps and the ceiling?
They would not be lodged at all: they would be in constant motion, and all continuously pass off.

376. Their first course would be there?
They would pass off. There would be an ascending movement from the bottom to the top of the House into the roof, and on to the discharge shaft.

377. *Chairman.*] In point of fact, you consider that your power over a draught of impure air would carry off the products of combustion as completely and effectively for all purposes of respiration as the present system carries it down?
Better; the present system in this House was tried in the Athenæum Club before it was tried in this House, and they have been consulting me upon the subject this very morning.

378. Marquess of *Lansdowne.*] Is the system now in operation at the Athenæum Club?
Yes; I understand so.

379. Viscount *Torrington.*] If your plan were carried out in the centre portion of the House lengthways, the only alteration required in the roof would be to open a sealed chimney?
It is only a door; you can walk from the admission air chamber into the two foul air chambers, right and left of it.

380. Lord *Stanley* of Alderley.] Would not your plan of procuring fresh air necessitate the constant opening of the doors?
I think not.

381. Suppose all the doors to be closed, whence do you get fresh air?
I have always declined to answer that question. Air will come in; you could not make a vacuum; you could not exhaust the air in the House of Lords. Where is it to come from? If you shut every door and window in every possible way, you cannot have a vacuum.

382. Does your plan, then, assume that, practically, the doors never will be closed?
No, I do not assume that at all.

383. Do you think that a proper quantity of fresh air could be obtained, even though the doors were not opened?
I have not the slightest doubt of it.

384. Then from whence do you think the fresh air would come?
It is very difficult indeed for me to answer that question. I could not say. The point is to have a good ventilation at the top of the roof. All I say about ventilation proceeds on the basis of having a perfect discharge at the roof.

385. If discharged at the roof, you think that some time or other it will come in at the bottom?
No doubt of it.

386. Viscount *Canning.*] And you think that that would be pure air?
Yes; and you would be a great deal more comfortable than you are now.

387. Would your opinion, in that respect, be at all shaken, if you were informed that the nearest window capable of being opened at the entrance of the House of Lords is at a distance of at least 50 or 60 feet?
It cannot be so much as that, because the House is only 40 feet high.

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388. If you were told that there were no windows within 40 feet of the entrance of the House, do you still think that the air that would be introduced through the doors into the House of Lords would be fresh and agreeable air?
I think so.

389. You stated that you did not wish to have windows opened high up?
Not for the supply of the House with air while the House is sitting, but when the House has broken up from its judicial business, and is going to meet an hour afterwards.

390. Is it not as likely to be as fresh as that which comes from the top of the Victoria Tower, and goes through a long tunnel into a cellar, and comes up again?
I should say it would be a good deal better.

391. Supposing there was any objection arising from the distance of the windows capable of being opened, might not that objection be overcome by making several of the windows in the corridor immediately outside of the House to open?
I think it might. I stated yesterday that if we could get two fireplaces in the House of Lords which could let a current of fresh air in round both the sides and backs of the fireplaces, which supplies could be opened or shut as required, they could be used occasionally, or not used, just as the feeling of the Peers might render necessary; and I instanced the case of some large rooms which I had so done for the Earl of Burlington, where we got large supplies of air from the exterior, passing round my patent fire-brick grates into very large rooms; and I recollect very well, when I was down there, that we sent a man to the exterior of the building with some lavender put in a heated shovel, probably quite as far from us as the end of the corridor here down to the exterior. Lord Burlington wished to have some positive demonstration of the current of air that was passing, and he proposed the lavender, and it came in instantly, and diffused itself all over the room, showing that there was a current of air continuously coming into that room from the exterior, passing round the small fireplace. But I doubt whether you could get fireplaces in the House of Lords, though I suppose you might.

392. Whereabouts in the House, for your purpose, would it be best to place them?
I do not think the position very material.

393. Lord *Stanley* of Alderley.] Would it do to have a furnace in the roof?
You do not want a furnace in the roof.

394. But a small fire?
A very small fire for occasional use, to induce the ascending current from the House.

395. *Chairman.*] Twice as large as the fireplace in this room?
I should say about half the size of it.

396. Lord *Stanley* of Alderley.] Would it be necessary for the fire to be in the body of the House?
I should prefer it at either side of the House.

397. *Chairman.*] One on each side, about the centre?
Yes, I think so; I think that would be the best place. I am not at all sure that you might not get a sufficient supply of warm fresh air from the fireplace of the robing-room, if properly arranged under my system, without touching the House at all.

398. Viscount *Torrington.*] There are two fireplaces there?
Then, certainly, from those two fireplaces, without touching the House at all, a continuous supply of fresh air may be obtained, if arranged as those at the Earl of Burlington's.

399. Viscount *Canning.*] You have stated that it would be difficult to try your system of burner so long as the present system of ventilation went on in the House, a down-draught in the centre and an up-draught in the sides?
Yes.

400. Can you suggest no means by which an experiment could be made with three or four of the burners altered to your system without altering the whole?

The whole of my evidence goes to show that you should have cannel coal gas, purified for the better lighting of the House. Then the point I had to look to was, the means of getting it into the existing pipes without any material alteration of the existing mains and services. I have ascertained that. Then, the next step was, to stop the downward current from the centre chamber, leaving the emission at the two sides; that is (in answer to the questions put to me yesterday, as to lighting the House from the existing branches at the sides and ends of the House), to leave the ascending current to pass up the present apertures, where they are now supposed to pass up; so that I do not see that we can get the result by putting on three or four burners, because we should not have the cannel gas, nor the purification.

401. Cannel coal gas is not essential to the trying of your system of burning?

No; you could try it with the common gas if you like. You can put in a purifying apparatus for that gas.

402. Supposing it were determined to purify the gas, and were not determined to alter the entire system of lighting as regards the burners, but that it were desired to make an experiment of your burners, is there no means by which your burners could be applied to some of the burners as they now exist, burning purified common gas?

I have not the least doubt of it.

403. That would enable the House partially to test the merits of your suggestions?

Yes, certainly; but it would be only a partial experiment.

404. Lord *Stanley* of Alderley.] There might be one on one side, and one on the other?

Yes; but we must ascertain what gas each side is burning.

405. Viscount *Canning*.] Would not the quantity consumed be easily ascertained by comparing the rate at which it was burnt on one side with what it was when both sides were lighted?

If it were determined so to do it, the best plan would be to put each burner upon an experimental meter, to ascertain exactly what they did burn, and to take that as the standard.

406. You think that that would be a more accurate test?

I think it would be an approximate test; I do not think it would be accurate, but near enough to try the experiment.

407. Earl *Graham*.] If you had a meter on each side you could tell?

Yes; if you had the cannel coal gas on one side here, and the common gas on the other, not purified, you would have an accurate test of the experiment; it might be done very easily.

408. Lord *Stanley* of Alderley.] It would not be fair to give the new burner the cannel coal gas and the old burner the common gas; they should both burn the same gas?

Yes; I am perfectly agreeable, if your Lordships so decide, to do any thing in my power to give you a demonstration of what we can do in the readiest way to enable you to arrive at a result. With reference to the wishes of the Committee, I understood that one of the great points was to combine the advantages of a superior lighting with a better ventilation of the House. The first stage in that matter, in my opinion, is to use the smallest possible quantity of gas for the purposes of light; because you thereby get much less heat, and therefore the whole plan is, as it were, dovetailed together. If all the conditions laid down are not fulfilled, we do not get the proper result, but only a partial and limited one.

409. *Chairman*.] Our desire for improving the ventilation is not merely connected with gas-lighting; we find the system of ventilation and heating or cooling of the House very imperfect at present, and unpleasant when there is no gas at all in it. Therefore, in considering the ventilation of the House, if you should be obliged to make a special report upon the subject, or to undertake it, you would have to consider how provision is to be made for it when there is no gas whatever burnt?

Yes;

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Yes; and therefore I lay down the position that there should be in the House of Lords, or any other large chamber, a continuous ascending current.

410. Lord *Stanley* of Alderley.] How is that to be produced?
I think there is not the slightest difficulty in that, which I have already explained.

411. Marquess of *Lansdowne.*] Where would you place your fire in the present House of Lords to draw off the impurities?
There is a place up above the ceiling of the House that would require the merest alteration in the world to effect the object, and it could be done at a very trifling expenditure indeed, scarcely worth mentioning.

412. And a single fire would be sufficient?
Perfectly sufficient. I do not think you would require a fire at all in many days.

413. Lord *Stanley* of Alderley.] To make your plan complete, you would stop the access of all artificial air from the doors?
I should shut off all the present artificial supply of air.

414. Would it be easy to try an experiment of that description in the House of Lords, so as to be completely satisfactory to yourself?
Yes; I think most easy to do so.

415. You think that it might be done by stopping the present access of artificial air, and establishing fire in some part of the House, for the purpose of carrying off the foul air?
Yes; I have not the slightest doubt about it. You might do it any day next week you liked.

416. Without disturbing either the walls or any portion of the House?
Yes.

417. You say that it might be done at a very small expense?
A mere trifle. I have not been into the flue to see what lengthening it might require; but I should think that the sum of 20*l.* would more than cover everything.

418. In point of fact, you think that the experiment might fairly be tried at a cost not exceeding 20*l.*, and without doing injury to the walls, or any other part of the House?
Yes; I think so.

419. Earl *De Lawarr.*] Suspending the action of the descending current?
Yes, and increasing the action of the upward current. When the Committee sit again, I will have had one of my men go into the flue for the purpose of ascertaining what it would require.

420. Lord *Stanley* of Alderley.] Are the Committee to understand that you think there would be no difficulty in fully trying your experiment at a cost of 20 *l.*?
Yes, as regards the ventilation.

421. As far as ventilation is concerned, you are willing to undertake it at that sum?
Yes, I would not put it at more, because, as far as I see of the matter, it is amply sufficient.

The Witness is directed to withdraw.

G. Gurney, Esq.

GOLDSWORTHY GURNEY, Esquire, is called in, and examined as follows:

422. *Chairman.*] YOU have directed a great deal of attention and study to the matters of lighting and ventilation?
I have.

423. Will you be good enough to mention to the Committee some of the principal houses or large chambers, or public offices, that have been ventilated by your system?
The courts at York, Beverley and Hull, the Court of Exchequer, the Panopticon, and some others.

424. Were

424. Were you not also engaged upon something of the sort at Paris?
I was consulted here about the Chamber of Deputies; whether the whole scheme they proposed was carried out or not I cannot tell.

425. I believe you have already examined the House of Commons, and in some degree the House of Lords, as to the condition of the building with respect to its atmosphere and light?
I fully examined the House of Commons two years since, under an order of the House. I went over the whole building, and examined it very accurately, and officially reported on it. The examination of this House was made five or six years ago, but that examination was simply with respect to the quantity of air passing through; it was not done officially, but at the request of one of the Peers.

426. Have you lately been in the House of Lords, so as to form any opinion of the mode in which it is ventilated or lighted?
Not lately, but I believe that the principle of lighting and ventilating has not been changed since I last saw it, which was the period I have alluded to.

427. Did you form any decided opinion upon it at that time?
I thought that the whole system of ventilation was not such as I should have adopted; part of it was. I like the system of bringing in air at a high level, provided it be carried out at a low one. In regard to the lighting, I think it might be much improved. The products of combustion from the gas-lights are carried away, but not from the candles; the burnt air from the candles escapes into the House. They are deleterious, and produce carbonic acid like the other. The gas burners in the House of Lords are preferable to the open candles, because the products of combustion in the gas burner can effectually be carried away. The heat radiated from the gas burners, as there arranged, was more than it ought to be, more heat radiating from the burners than there need be.

428. Do you remember, or have you any notes of the experiments which you made in the House of Lords as to the temperature at different levels, commencing from the floor?
I think I have all my notes somewhere, but I hardly know where to put my hand upon them.

429. Have you perceived or heard complaints of the strong draughts and currents of air that prevail in the House of Lords occasionally?
I have heard complaints of draughts spoken of, but not officially. I say "officially," because I have been officially appointed to consult with the First Commissioner of Works upon these matters; nothing has come to my knowledge except what I have heard from certain Peers.

430. Do you think that such draughts as are complained of might be effectually prevented by the present system of ventilation?
I think they could; I think the system is defective, in as much as air comes in at different temperatures from that in the House, and when colder, it falls in virtue of its specific gravity, producing the disturbance of retrograde currents.

431. Do you think that the entire system ought to be altered, in order to obtain a more quiescent atmosphere and a more regular temperature?
No; I think, if I recollect rightly, there are facilities for extracting and wire-drawing the air at a low level; if so, the other arrangements might remain.

432. Earl *Graham.*] Would you withdraw it through the floor?
The lower the level the better; the great deterioration of the atmosphere is occasioned by emanations from the skin, which first assume a low level; it is not from the breathing, as generally supposed; breathing does not injure the atmosphere so much as the emanations from the skin; the exhalation from the setaric glands with perspiration are in some cases very powerful; those are the great sources of a vitiated atmosphere; in breathing you only make 20 respirations in a minute, and take in half a pint of air, the oxygen of which is not all consumed.

433. The air is not wholly consumed, but only deteriorated?
Exactly so; this small quantity of air is easily supplied: one great source of contamination

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contamination, requiring quantity and disposition of air, was these exhalations from the skin and formations, which are heavier than the atmosphere.

434. How do you apply those observations to the question which had reference to the carrying off the impure air below instead of above?

Extracting the foul air from below takes it away before it can rise and mix with the atmosphere to be breathed; these emanations are heavier than the atmosphere, and the sooner they are carried away the better.

435. They are not held in such perfect solution as to be able to be carried off of themselves?

No, not upwards; they take a low level. The emanations which escape from the human person can be detected in many ways, lying at a low level; a dog 12 or 14 hours after will detect them on the ground. A case in point has recently come under my notice. In the neighbourhood in which I reside, we have lately had a great number of depredations of sheep-stealing; they could not catch the thieves; the farmers of the parish subscribed 30 *l.*, and purchased a couple of bloodhounds. To test the dogs, a man was sent into a hen-roost overnight, with instructions that after he had been there, to go away wherever he pleased, taking care to be in a place of safety on the following morning. At eight o'clock on the next morning they took the dogs to the hen-roost, and put them on the scent; the hounds immediately set off, and followed the track of the man at great speed; the horsemen could not keep up with them; they passed over eight miles of ground in less than half-an-hour, when they came to the foot of a tree, in the branches of which the man had seated himself. I know this to be true, for the case came before me only last week as a magistrate. A question arose whether it was lawful to keep dogs for such a purpose, and several witnesses were examined on the subject. It put an end to sheep-stealing. However foreign it may appear to this question at the first view, still, on consideration, I think it will be seen to bear upon and connected with it—a question of degree. As in chemistry great truths are obtained by small and delicate tests, so in physiology we do the same. We have not the same senses as a dog to detect one, but if the emanations from the skin of a number of persons are kept together in a room, these emanations would be sensible. If not carried away, they stick to the walls, and may be perceived on going in fresh the next morning to a badly-ventilated room in which a number of persons had been overnight.

436. Are there any windows at present open in the House of Commons?

There are not. I am directed by the Committee of the House of Commons to see what I can suggest to remedy the complaints of the House, and I shall certainly advise the windows to be made to open.

437. Do you think it would be an improvement in the House of Lords?

I think so.

438. Earl *Graham.*] As you propose to take away the foul air through the low level (when it is heated, generally the heat rises), do you get it out through the floor?

In practice we find it easily descend; when hot, it is specifically lighter, but the change of temperature does not carry it up against a very slight extraction force; this applies to the exhalations; nor does it carry up carbonic acid; the laws of diffusion of gases all interfere against temperature.

439. But the hottest air rises?

Yes, when there is nothing to prevent it, it has that tendency.

440. Marquess of *Lansdowne.*] Then why will this not rise?

From its being naturally heavier, and becoming immediately mixed with the downward flow.

441. Earl *Graham.*] If you go into the House of Lords any night, you will find that the heat and smell in the gallery is much stronger than in the other parts of the House?

Yes, because its buoyancy is not opposed; it is very easy to remove it; and it is that easy disturbance which renders it easy to be removed downwards.

442. Lord *Stanley* of Alderley.] Do you think the tendency of the vitiated air is rather to fall to the bottom than to rise to the top?

I think

I think all the exhalations from the skin, and carbonic acid from breathing; but the warm air from the breath, the diluted nitrogen, ascends.

443. If all the apertures in the lower part were closed to the admission of fresh air, do you think that the foul air would fall to the bottom instead of passing away to the top?

It would fall, and remain there in an absolute still atmosphere; a portion would become mixed under the laws of diffusion to the point of saturation, then it would rest as a sub-stratum; generally where air comes into a room it will go out, but in a still atmosphere it would remain. There is an extreme case on record, of the Black Hole at Calcutta; in this case the lowest died first. There have also been cases, and one lately in steam-boats, where men have been kept under hatches, and have died from the effects of foul air; one or two saved themselves by going up a ladder. Those are extreme cases; they merely show it to be possible, and are cases of degree; under most practical and ordinary cases the vitiated air does not fall in such quantities as to become very sensible; still that it does so to a certain extent is shown from actual observation and experiment. Examinations of the House of Commons in the morning show that foul air ought to be taken away at a lower level; the warm air from the breath, and the heat arising from the bodies of the persons, make the nitrogen ascend, unless there is a counteracting force.

444. Do you think it necessary for the carrying off the air that there should be the introduction of an artificial current in the body of the House?

I should prefer it below, out of the House.

445. To assist you in the discharge of the foul air, you think it important that there should be the introduction of a current in the lower part of the House?

I would not call it a current. I would have an extraction so slow, that the air should move imperceptibly.

446. In what part of the House would you propose to introduce the fresh air?

From where it comes in now; it should come in freely.

447. Then, in your opinion, it is desirable that the fresh air should come in at the top, and depart at the bottom?

Yes.

448. Viscount *Torrington.*] The Peers complain of a great draught coming down from the top?

I suppose it comes down at the sides, and crosses the middle by its spring, producing retrogrades.

449. No; it is the reverse way?

The ceiling is so arranged to admit it either way, I believe; it matters not; the draughts there, I think, are produced from retrogade disturbance.

450. There is a chamber sealed in the centre; the air is pumped in at the centre, and comes down?

I recollect the divisions, and I well recollect the power of making it go down the sides or middle, but I do not know which system has been employed.

451. Be good enough to state what would be the effect of broken glasses under the present system, would there not be a great escape of gas?

There would not be a great escape of gas, but there would of the products of combustion and hot air; I have not myself made any experiments in your Lordships' House, but I am informed when these burners are open, and when shut, there is a visible difference in the quantity of carbonic acid gas found in the House.

452. *Chairman.*] Even with the present precaution?

No; the tops were left off for an experiment.

453. Viscount *Torrington.*] Supposing the burners are made as sound as they can be made, there is still a little escape?

Yes, possibly a little. I have not examined them closely enough to speak with accuracy upon that point.

454. Earl *De Lawarr.*] Do you think it essential to the purity of the atmo-

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sphere of the House that the products of combustion should be carried off without entering the House at all?

Certainly; it is essentially necessary, no matter whether arising from the combustion of oil or gas, or anything else.

455. There ought to be an abstraction of those products without entering the House at all?

Yes. I have always thought it essential, and have lately, in the House of Commons, placed the burners entirely out of the House. In the late House the burners were insulated, and the products of combustion carried away through spiral tubes. In the lobbies, passages and offices, all the lights were so arranged that the whole of the products of combustion and hot air was carried away through pipes made for the purpose. In these cases the insulation of the light was nearly as perfect as it is in the House of Commons now.

456. In a sanitary point of view, you consider it indispensable to carry off the products of combustion?

Yes, certainly; there cannot be two opinions on this point. No matter what your gas may be, the products of combustion and burnt air must be carried away. It matters not whether you have common coal gas or cannel coal gas, except as an item of expense; it is simply a question of expense of light.

457. *Chairman.*] As a question of light, the difference between cannel gas and common gas is great, is it not?

It is said that the ratio is as 12 to 20, or 3 to 5; but this I cannot speak to with accuracy.

458. Are the House of Commons satisfied with the ventilation of the House at present?

No, they are not; and it is on that account that I am now summoned to town, to investigate the subject. The House has never been ventilated by me.

459. Have you not lately examined the House of Commons, and all the passages there?

I have been examining the House for the last two days. I examined the whole of the building in 1852.

460. You are at present employed upon a similar examination by the House of Commons?

I am now employed under an Order of a Committee of the House.

461. Should you have any difficulty in continuing that examination to the House of Lords, so as to be able to make a report to this Committee?

I shall be most happy to do my best. There is no objection in doing so: on the contrary, it would be desirable, because many of the ventilating trunks and passages that go to the House of Commons go also to this House. In 1852 I was prevented from making a very important experiment of observation, namely, to mix the incoming air with light smoke, and to watch its passage to and appearance in the different rooms. I could not carry out the experiment because many passages went into your Lordships' House, and the experiment could not be made without your consent. We may theorise where we please; we only arrive at an approximation at last. One practical demonstration is worth a thousand theories.

462. Do you consider that a system of ventilation, such as is now carried on in the House of Lords and in the House of Commons, is better than the old system of apertures for carrying off foul air at the top, and a common fireplace and a common ingress of air by doors and windows?

I think that in many rooms of the House not fully occupied such a system of ventilation is desirable, and preferable; but under the conditions of the House itself, I do not think it would; you would not get sufficient ventilation.

463. Viscount *Torrington.*] Do you not think that a great deal of the air that is now got down at the high level is very impure, considering the gas works, the chimneys and shafts, the vitriol works, on the opposite side of the river, for instance?

The air that you are breathing at this moment is taken in at the top of Victoria Tower, and therefore whether it comes in at the top of the room or bottom, it is only a question of a few feet affecting the room itself.

464. If we did not get the air from a high but from a low level, would not that be a more pure air?
No, I think not.

465. Earl *Graham.*] Do you not think the air from this window more pure than the air at the top of the tower?
No, I think not; smoke, we know, mostly goes up.

466. *Chairman.*] Do you know if there is any guard adopted at the top of Victoria Tower to prevent blacks that are not in solution from entering into our House?
I do not know whether there is anything of the kind as regards the House of Lords, but with respect to the House of Commons there is a screen through which it goes before the air comes to the House.

467. Viscount *Sydney.*] You stated that there was more heat than there ought to be in the present burners; do you mean that by retaining them you could diminish the heat?
I said that more heat radiated from them.

468. Could you diminish that heat if these burners were retained?
Yes, I think they might be better insulated; the amount of radiation might in some degree be obviated; the air goes down now through a pipe provided for the purpose, and that pipe necessarily becomes hotter then than it would be if it went up; it receives and radiates the whole heat of the hot air from the burners; if it went directly away, it would not do so.

469. Earl *Graham.*] In those courts that you have ventilated, do you cause a considerable amount of air to come in at the ceiling?
Yes, the air comes in at the ceiling and goes out through the floor; we have in many the power of reversing, namely, of bringing it in at the floor or taking it out at the top.

470. Does it require large mechanical force to bring the air in?
No; air is very easily moved; where you have slight levels and free open spaces a feather balance will do it. In coal-pits, with long and tortuous passages, you are obliged to use great power to bring it down; but in a building like this House, or the House of Commons, the power required to disturb the balance is very small, or ought to be.

471. The present system requires a 20-horse steam engine?
It does not require it, but it is certainly there.

472. You could do it with a small fire?
I think so; it is now soon done; those powerful machines make great disturbance.

473. *Chairman.*] Do you remember the system of ventilation in the old chapel of St. Stephen's, when the House of Commons sat there; there was a fan there, and the windows over what they called Solomon's Tower opened?
I did not know it.

474. Of course I allude to the period before the burning down?
No.

475. Earl *Graham.*] In those courts which you have ventilated you have found your system answer?
Yes; we have found the down-current always more agreeable; the up-current is sometimes used, but it is not so pleasing, and not so effectual.

476. *Chairman.*] The Committee wish you to continue your examination entirely over the buildings of the House of Lords, and to report, as soon as you conveniently can, your opinion both of the defects of the present system and of the improvement which you consider desirable to carry out?
I shall be most happy to do so; I require power from your Lordships.

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477. You will not be long before you make a report?
I could soon make a preliminary report; but it is a subject that requires a good deal of care to mature.

478. We shall not meet till next Thursday or Friday; could you do it by that time?
Yes.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned till Thursday next, Three o'clock.

Die Jovis, 4° *Maii* 1854.

LORDS PRESENT:

Marquess of LANSDOWNE.	Lord ARDROSSAN.
Viscount TORRINGTON.	Lord SOMERHILL.
Viscount CANNING.	Lord ASHBURTON.

THE LORD SOMERHILL in the Chair.

Evidence on the Ventilation and Lighting of the House.

Sir Charles Barry.

4th May 1854.

SIR CHARLES BARRY is called in, and examined as follows:

479. *Chairman.*] THE Committee would be glad to have your opinion, first, upon the expediency or otherwise of improving the day-light admitted into the House of Lords at present; whether you think it would be not difficult and expedient to make any alteration in the windows for the purpose of admitting more light?

I should consider that to be the only means by which the light of the House could be improved, and I see no practical difficulty nor any æsthetic objection to it. I think a lighter coloured glass could be made to harmonize with the details of the interior just as well as the present glass.

480. We were to have had some windows prepared, with a view of considering what the effect would be?

Yes. I have had two lights prepared, which I have seen up in their place, and, as far as the object of obtaining more light is concerned, they were perfectly satisfactory; I should say that they admitted at least 30, if not 50 per cent. more light.

481. Without any material injury to the general effect of the chamber?

I think so.

482. Viscount *Canning.*] When you say "two lights," what do you mean?

Two compartments simply of one window, each window having eight of those compartments.

483. Lord *Ashburton.*] Would the change involve a sacrifice of the present windows?

By no means. I should propose to remove the present glass to the Royal Gallery, which is designed to have double glazing, like the rest of the building, the inner glazing being of stained glass. Although the lights do not exactly correspond, yet by very slight modifications they might be made to fit those windows, and therefore there would be really no loss whatever as regards cost.

484. *Chairman.*] Could that change be effected in the Whitsuntide holidays, or would it take longer?

I am afraid not. I do not see any prospect of being able to effect the entire change during the Session of Parliament.

485. Would it be easy to effect, during the Whitsuntide holidays, or upon some more convenient occasion before Parliament rises, a partial change, so as to enable the Members of the Committee or the House to judge at all of the effect, without materially disfiguring the chamber?

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There would be no difficulty whatever, in the Whitsuntide holidays, in having two of these lights tried up; but I doubt very much whether it would be prudent that a greater proportion should be provided; however, that would be sufficient to enable the Committee to judge, by contrast, of the amount of increase of light, with reference to the present light. The two lights which have been prepared would have been ready to submit to the Committee now, but there are great practical difficulties, with respect to stained glass, in getting exactly the colour required; and there are also other practical difficulties to contend with; I have, therefore, been obliged to return the two that have been prepared to the manufacturer for modification. During Whitsuntide, however, I should be prepared to show the Committee two lights of such a character as I should recommend.

486. In this alteration, would it be easy to make some of the windows of a nature which would admit of their being opened at times?
It would not be easy to do so, but of course it is not impracticable.

487. Some of the panes?
The windows are not divided into panes. There would be a difficulty in determining the size of the aperture. If the casement were the whole of the light, so as not to interfere with the design of the glass, it would be very large and inconvenient.

488. Viscount *Torrington.*] Could not the whole window slide up and down?
I am afraid that would be quite impracticable, without cutting away the wall to such an extent as might interfere with the stability of the building.

489. There is no opening between the wall and the bottom of the window, so that the window can slide down?
None whatever.

490. Lord *Ardrossan.*] Then do you see no means of making the windows to open?
There are means, undoubtedly; but I think it would be necessary, in order not to interfere with the design of the glass, that the entire light should open, and that might be found an inconvenience from its size.

491. *Chairman.*] You mean one compartment between the mullions?
Yes; because in the design of the glass there are no horizontal lines to admit of a division for a casement conveniently.

492. Viscount *Canning.*] Is there no way in which you could adapt an opening to the lines, whatever they may be, in the windows, as is the case in the windows of this room, by a lozenge?
I think that would be impossible in the design of glass which I shall have the honour to submit to the Committee; but it is possible, perhaps, that a portion of the lower part, say about six or eight inches above the sill, might be devoted to an inscription, which might be made to open so as to admit air; and I think such an aperture would, perhaps, be found quite as much as it is desirable. There would be some little difficulty as to the external glass, which is in one plate, filling the whole compartment. That would have to be removed and jointed, so as to correspond with the inner casement. The whole of the windows are double glazed.

493. *Chairman.*] But is that exterior glass so thoroughly and essentially glazed as to exclude the air?
Entirely at present.

494. Lord *Ashburton.*] Do you think it would be desirable, for ventilation, that the windows should open?
I do not.

495. Do you think that it is consistent with the good ventilation of the House that the windows should open?
I consider that it is consistent with good ventilation to keep them closed. I feel perfectly sure that if, during the Sittings of the House, windows were left open, most inconvenient draughts would be experienced by Members in the body of the House.

496. *Chairman.*] That objection, however, does not extend to opening the windows

windows at hours of the morning or evening when there is no attendance of Peers in the House?

No.

497. Lord *Ashburton.*] Supposing that a good system of ventilation were adopted in the House, do you think that it would be necessary to open the windows?

I should say, decidedly not.

498. At any time?

Not at any time.

499. *Chairman.*] Have you, of late, paid particular attention to the ventilation of the House, so as to have any suggestions that you wish to offer to the Committee?

No; I have had nothing whatever to do with the ventilation of the House for some time past. I really hardly know what the arrangements are which are now in operation.

500. Lord *Ardrossan.*] Could you not, when preparing these new windows, also prepare a specimen of a window which could open?

Yes; I will take care that the specimens are so prepared that the portion of the window to which I have alluded shall be made to open.

501. *Chairman.*] It has been suggested to the Committee in the course of their proceedings, that the House might be better artificially lighted than it is at present by being lighted from the centre by a large volume of light, high up in the middle of the House; have you had occasion to consider what effect that would have upon the appearance of the House, or upon the lighting?

I have considered that subject. It has long since occurred to me that a better mode than that which is now adopted might be had recourse to for lighting from the ceiling; and I was induced to consider this in consequence of the excessive heat which is thrown off by radiation from the ventilating pipes of the present lamps, which are necessary according to Faraday's system of ventilating such lights. Last night Mr. Meeson, who has now the charge of the lighting, made at my earnest request an experiment with reference to lighting from the ceiling through the pendants; there is no difficulty whatever about it; the light is in my opinion more agreeable, more equally diffused, and would be more out of the eyes of Members. The effect of the House is very much increased by such a mode of lighting, particularly as regards the frescoes, as well as the statues in the niches; in short, the architectural character of the House generally is more strikingly developed than by the present mode of lighting. The arrangements for lighting from the ceiling still exist, so that if the Committee should feel disposed to witness a trial of that mode of lighting, the experiment could easily be repeated.

502. In those observations do you contemplate lighting by pendants in different parts of the House, as, for instance, four or five or six, or do you contemplate a single large focus of light in the centre?

I contemplate lighting from each pendant, and as there are ten pendants, there would be ten sources of light: the diffusion would be much more perfect than at present.

503. How do you think that that would affect the ventilation, favourably or unfavourably?

I imagine that it might be made instrumental to a much better ventilation than the present; it would accelerate the discharge, and of course accelerate the supply, by which a change in the air of the House would be produced in much less time than at present.

504. Without any very great or extraordinary force of currents?

I think so.

505. The supply would be more regular?

Yes; that is assuming that the supply was, as I always intended it should be, from the ceiling, and not from the floor. It is almost impossible to avoid the inconvenience of partial currents, when air is admitted from the floor, or near the person.

506. You think that the discharge should be from above?

Yes.

 507. Viscount

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507. Viscount *Canning.*] Would the system of lighting to which you allude similar to that used in the House of Commons previously to the last alteration?
No; that was a different system; it was by chandeliers, which were attempted to be ventilated upon Faraday's system, but the arrangements for the purpose were necessarily so intricate as to be found impracticable.

508. But in that case the light came from pendants in the ceiling?
Yes; but the chandeliers were hung very low, so as to afford light under the galleries of the House, and were therefore found to be inconvenient and oppressive to Members and others in the galleries; whereas the lighting which I mention, with respect to the House of Lords, would be within five feet of the ceiling, and that inconvenience would therefore be avoided. The Committee may witness the experiment at any time.

509. *Chairman.*] During the Whitsun holidays?
At any moment; I had it tried last night.

510. How do you dispose of the gas?
During the experiment the ventilation would not be perfect, but it would show the Committee the effect of the light, and there would be no difficulty whatever in ventilating those lights, but without the inconveniences of having a very large quantity of tubing radiating heat, for the pipes would be short, and heated air would pass very rapidly up them through the pendants, and so relieve the House: the radiation of heat would be reduced to the minimum.

511. Viscount *Torrington.*] Are the burners which you propose to use of the same description as those now in use?
They are such as are used for cannel coal gas; the burners have been changed for that purpose lately.

512. Are the burners which you propose to use in lighting from the pendants to be the same as have been hitherto used in the House of Lords?
Not exactly the same; they are proposed to be in rings, which would be adapted to coronets. The rings would be so proportioned to the tube, and the tube would be so adapted to the pendants, that all the products of combustion would pass most rapidly through it into the upper channels at once.

513. Are you aware of the quantity of gas used each hour in the House?
No.

514. Could you give us any idea of the quantity which would be used under the system that you now suggest to the Committee?
I have no means of knowing, but I should say it ought to be less.

515. Lord *Ardrossan.*] Do not you think it would be advisable, in making these experiments of lighting from the ceiling, to try different sorts of burners?
Yes, it would be very desirable to try every one.

516. The Leslie burner, for instance?
Yes; I see no objection to trying it.

517. To try different burners in the different pendants?
I see no objection, as the object would be to get the best.

518. Viscount *Canning.*] How many pendants were fitted with lights on the occasion to which you refer?
The whole of them; 10 in number.

519. Is the apparatus still remaining?
Yes.

520. Lord *Ardrossan.*] At what time of the afternoon would there be a fair trial of this experiment of the lighting?
It would not be fair to try it until after dark; not till after seven o'clock.

521. Viscount *Torrington.*] Is there more than one light in each pendant?
There is one light; but that light is formed of a series of small jets from a ring.

522. *Chairman.*] Have you at all considered whether it would be advisable to make any alteration in the present windows of some of the corridors, or halls, or passages

passages adjoining the House, such for instance as that hall immediately at the lower door of the House of Lords, in order to admit more light in the lobby of the House?

The same kind of glass might be applied for that purpose, as in the House, and with no bad effect.

523. Is it not the case, that for a great many days of the House sitting, you are obliged, in the middle of the day, to have gas burning in the lobby?

I believe, in dark weather, it is necessary, not otherwise.

524. Do not you think that that has rather a bad appearance, as regards the general efficiency of the Palace for the purpose for which it is intended?

I must admit that it has, to a small extent; and I do not object to the change from the present glass to a lighter glass.

525. In the corridor, adjoining that lobby, would there be any objection to employing perfectly plain glass instead of the present ground windows?

No; but by the removal of the grinding of that glass, more light would be admitted.

526. And no material injury to the effect of the building would be produced?

I should say not.

527. Lord *Ardrossan.*] Would there be any objection to making some of those windows to open?

Each of them does open at the present time in the upper portion by lozenges, as in the windows of this room.

528. Viscount *Canning.*] To go back for a moment to the shifting of the windows, may we reckon that that may be done, supposing it is carried out, without any very great expense ultimately?

Yes; I think so.

529. We understand that you would remove the present windows to the Royal Gallery, and thereby save the expense of new painted windows for that?

Yes; that is my proposition.

530. Those windows not being as yet made?

No; the designs are not decided upon.

531. *Chairman.*] Reverting to the question of lighting by day, can you suggest any mode of improving the light of the Prince's Chamber, where it undoubtedly is deficient?

I think an improvement to the light of the Prince's Chamber might be effected by a trifling modification of the tracery of the windows, and perhaps sufficiently so to give the amount of increase that would be desired.

532. Would not a change of glass be also advantageous?

The glass is almost as light as it can be in the lower parts of the windows, but in the tracery the glass is highly coloured; that coloured portion might be changed for lighter glass.

533. Would it take long to make such an alteration as that?

No.

534. Could it be done while the House was sitting?

It would be attended with some inconvenience, and it would not therefore be desirable.

535. It would require a longer time than the four or five days of the Whitsuntide holidays?

Yes.

536. Viscount *Torrington.*] It was suggested by one of the witnesses that it would be a very great improvement to the ventilation of the House of Lords if there were a fireplace or two in the House; would there be any difficulty in introducing a fireplace or two into the House?

With reference to the present arrangement of the seats, I think it would be a matter of great difficulty; indeed, I do not see how it is to be done, except by a considerable alteration in the present internal arrangement of the sittings, and also of the floor, as the floor on each side of the House rises in steps.

 537. Could

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537. Could not they be placed on each side of the throne, before you get to the seats?

There is scarcely room on each side of the throne, as there are doors there at present.

538. Do not you think that in such respects it would be advantageous to the ventilation of the House if there were a fireplace or two?

I do not think it is at all necessary.

539. *Chairman.*] It would involve the sacrifice of the back seat, if it were in the centre of the House?

Yes; and there would be practical difficulties in the formation of flues in the main walls of the building; it would be altogether attended with much labour and expense.

540. Lord *Ardrossan.*] There was a suggestion thrown out that the ventilation would be very much improved by a fire in the ceiling to carry off bad air; could that be done?

Practically, that is the case at present, because the air in the ceiling is rarefied by the action of heat in the ventilating shaft.

541. Do you see no prospect of our having better ventilation in the House of Lords than we have at present?

I consider that the principles of ventilation in the House of Lords ought to produce a successful result.

The Witness is directed to withdraw.

A. Meeson, Esq.

ALFRED MEESON, Esquire, is again called in, and further examined as follows:

542. *Chairman.*] WILL you be good enough to describe to the Committee the changes that have been made since you were last before us with reference to an improvement of the artificial lighting?

A main has been laid in from Abingdon-street to the meter of the House of Peers six inches in diameter, with a supply of cannel coal gas to the House, with the necessary arrangements for the regulation of it; there has also been a communication kept up with the common coal gas main, so that in case of anything happening to either one or the other, we have two strings to the bow; the House can be supplied either with one gas or the other at present. The pipes have been arranged to bring this cannel coal gas to the burners, and new burners have been made, but these burners have proved very defective in their manufacture, and I have been obliged to return them to the manufacturer, and am now getting new ones; it requires that the burner, to burn cannel coal gas properly, should be very finely and delicately drilled, much more so than in burning the common coal gas, and these having been drilled carelessly, I presume by workmen in the Easter holidays, are quite improper for the purpose; they were used in the House the first night the House sat, but from the inequality in the drilling the flame ran into forks, and the glasses were smoked; therefore I have been obliged again to resort to the common coal gas till I get the new burners. I have also increased the size of six of the branches on either side of the House, in the centre of the House, so as to get a current of air passing between the outside brasswork and the inner ventilating tube, and by lapping the inner ventilating tube with three or four thicknesses of talc, which is a very good non-conductor, and putting some wire round to keep it close to the tube, I have succeeded in reducing the temperature of the external tubes more than one-half of what it used to be, so that at present you can bear your hand, even with the common gas, very easily on the tube, in any part of it.

543. And you think that it will be further reduced?

It will be further reduced when we get the cannel coal gas into operation in the House, so that that will lessen the heat very much from the branches; it will not get rid of it altogether.

544. How soon do you expect these new burners to be supplied?

I have the greater portion of them promised at the end of the week, but as they have to come from Scotland, where I have sent to have them done in the best way—

way—they having been much more accustomed in Scotland than here to the cannel coal drilling—it may be the beginning of next week.

545. Viscount *Torrington.*] What description of burners are they; somewhat the same as before?

Somewhat the same as before, but of a better construction; the present ones are a circular tube, with the holes drilled in it; the new ones consist of rather an oval tube, with a very fine edge, in which the perforations are made.

546. Have you tried the cannel coal gas in the old burners?

Yes.

547. And it does not do?

It does not burn in the old burners at all satisfactorily.

548. Lord *Ardrossan.*] Have you tried Mr. Leslie's burners?

I have.

549. Does it answer with them?

It answers with them very well with the cannel or with the other, if burnt with great care.

550. *Chairman.*] You stated that the glasses were smoked; that, I presume, was from imperfect combustion?

Yes, caused in a great measure by the imperfect drilling. Unless you can keep the flame equal and regular, so that there is not a greater supply of gas to one part of the ring than to the other, the flame is apt to run up into a fork, and then it becomes imperfectly burnt. The consequence is, that with the cannel coal it smokes instantly, and blackens the glasses. With the common gas it does not do that so much. The forks which were seen with the cannel coal gas burners would not, with the common gas burners, with common gas, have smoked the glasses at all; but from the richness in carbon of the cannel gas, it will bear very much less irregularity.

551. Lord *Ardrossan.*] Do you think that Leslie's burners would require so much attention to be paid to them that they would not answer?

No, I do not think so at all. I think you might use Leslie's burner, if you paid great attention to it, the same attention which you have to pay to almost any burner which burns cannel coal gas. But I have never yet tried Mr. Leslie's burner as a ventilated burner; how it will answer as a ventilated burner I am not at all prepared to say.

552. Viscount *Torrington.*] Are we to understand you, by "ventilated burner," that you would take the air down the tube?

Yes, to take the products away through a tube from the burner, as at present. I should doubt whether it would answer.

553. *Chairman.*] Has any experiment been made by Mr. Leslie in the House, as to supplying the light in a different manner altogether from that in which it is supplied at present?

No, not that I am aware of. Considering that we might not be able to reduce the temperature of the side lamps to the degree of coolness which would be desirable, I tried an experiment of lighting from the ceiling; and I think the experiment, as far as it went, proves that you may very successfully light the House from the pendants of the ceiling without the side lighting at all.

554. Was that with the same burners and the common gas, such as is now supplied?

No; with a different kind of burner, and the cannel coal gas.

555. Was the light supplied from different pendants, or was it from one large lustre in the centre?

From each of the main pendants of the ceiling; that is, five on either side; 10 lights in the whole; and the lights consisted of a ring, in which there were 20 fish-tail burners inserted.

556. Are those the kind of burners which you would advise to be permanently used, even if that kind of lighting was adopted?

I should advise the fish-tail burner or the bat's-wing burner to be used in burning

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burning the cannel coal gas, as it does so most perfectly, beyond most other burners.

557. Viscount *Torrington.*] Surely the fish-tail burner and the bat's-wing are both coarser burners than any other?

They are made fine exclusively for cannel coal gas, the same as any other burner is made finer for cannel coal gas; but they are the burners which burn the cannel coal gas in the most perfect manner of any kind of burner that I have been able to get; they burn it more brightly and with less chance of smoke, and with a greater amount of light in proportion to the gas consumed than any other burner.

558. *Chairman.*] Are they expensive?

They are the cheapest burners that you can have; they are some sixpence or eight-pence a piece.

559. Lord *Ardrossan.*] Is not the fish-tail burner the one in general use in Scotland?

It is the fish-tail or the bat's-wing; the fish-tail principally.

560. And do not you consider that the gas in general is better managed in Scotland than in England?

I cannot speak from my personal knowledge of it at all; I believe it is very well managed in Scotland.

561. Viscount *Torrington.*] Are you aware what consumption of gas was used per hour in this experiment?

I should say about 350 feet.

562. Compare that with what you use in the House under the present system in the same period of time?

It would be a saving of nearly one-half.

563. *Chairman.*] To light it from the ceiling?

To light it from the ceiling with the cannel coal gas. I am not quite prepared to give it as a perfect experiment, because I had no means at all of measuring in my temporary experiment.

564. Viscount *Torrington.*] But you consider that you had a greater amount of light, and a less consumption of gas?

Yes.

565. *Chairman.*] Do you think the light was as good on the floor?

I think it was superior on the floor, and I think that it lighted the House in a better manner in every respect; all the features of the House came out in good proportions; the pictures were lighted admirably, much better than I have ever seen them at all; the statues were all properly lighted; and I think the House on the whole looked better than I had ever seen it before.

566. And yet the lights were considerably higher than the present lights?

I should think 18 feet higher; that is to say, not more than six feet from the pendants.

567. Still the light to read at the table was good?

Most excellent; better than the side lights a great deal.

568. Could that experiment be repeated while the Peers are sitting some evening, when there is a moderately late sitting?

At any time it could be repeated; the burners could be all ready, and it might be turned up in a quarter of an hour.

569. Without having any great effect upon the ventilation?

Without having any important effect upon the ventilation. It would be better, if that system of lighting were adopted, that these lights should all be ventilated. I propose that they should all have ventilating tubes to them, in order to carry their products out of the House itself. In the rough experiment which I made there were no ventilating tubes to them, because I did not go to any expense in it.

570. But before that expense is gone to, one might choose some evening of a dark

dark day, when there was no reason to apprehend that the Peers would be detained beyond 8 o'clock, to try the experiment?

Yes.

571. The ventilation up to that time could not be so much affected?

Not at all; nor did I perceive during the time that I burned it, say three hours, that the ventilation was at all affected by it in such a time as that.

572. Lord *Ashburton.*] The products of combustion are carried away, are they not?

They are carried away through the ceiling, but they have an opportunity of diffusing themselves to a certain degree. I would rather that were not the case, and that they were carried up directly from over the light.

573. Viscount *Torrington.*] In your experiment had not they to come down in order to go up again?

No; because during that experiment there was very little down current coming in; there was very little ventilation going on, and the heat from the burners of itself naturally carried the products upward, especially as the burners were not immediately in the line of the downward current.

574. *Chairman.*] They were nearer to the up current?

Yes, they were between the two currents as it were.

575. Viscount *Torrington.*] Still if the ventilation was going on as if the House were sitting, the action of the air would rather have driven the combustion of the gas down, would it not?

I imagine there is a slight current coming down on one side of the burner, and another going up on the other side of it; being, as it were, in a neutral region, its own heat would incline the current to the ascending side. I do not think that anything would have been driven down to the floor of the House. I should also suggest, as well as the taking the products off directly from the lights themselves, that a change be made in the position of the air supplied to the House; that is, that it be supplied from the two sides of the House downwards, and taken out in the centre of the House.

576. *Chairman.*] You mean if this plan of lighting is adopted permanently?

Yes.

577. But not as regards an experiment?

Certainly not.

578. Viscount *Torrington.*] Is not the main to supply the cannel coal gas very large—a 6-inch main?

I have laid down a 6-inch main, with the idea that it may possibly be considered expedient hereafter to extend the supply of cannel coal gas to some other parts of the building, and I have preserved a communication which I can make at pleasure with the common coal gas main for that purpose, if it should ever be so extended. The difference of cost between a 5-inch main or a $4\frac{1}{2}$-inch main, which perhaps would have been sufficient for the House of Peers, and a 6-inch main is not a great deal when a new main is being laid down.

579. *Chairman.*] At present you have only pipes and burners to supply light to the House itself?

To the House of Peers and the contiguous apartments, &c., to the whole of the lights that were on the Peers' meter. The House of Peers as a department has always been separated from other parts of the building, and supplied through distinct and separate meters; the whole of the lights that are on this meter will be supplied with the cannel coal gas, extending, as I have said, to the House, the two side corridors, the Peers' Lobby, the Robing-room, and some lights thereabouts in some of the offices adjoining, and the corridor leading to the centre hall.

580. You are aware that Sir Charles Barry has prepared different windows to put into the House of Peers?

I am.

581. And that it is proposed to put them up as an experiment?

Yes.

 582. There

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582. There will of course be no difficulty whatever in affording the necessary assistance for that?

None whatever; anything that Sir Charles Barry requires I shall be most happy to give him assistance in. I may mention that I have made some careful experiments on the valves of different burners since I was last before the Committee; if the Committee thought it would be any advantage, I would lay the comparison before them; one of them is Mr. Leslie's. Should Mr. Leslie think that his burners are not represented to their full extent, I shall be glad to give him every opportunity of adjusting his burners to the best advantage, and repeating the experiments. Mr. Faraday's burner ventilated, that is, an Argand burner ventilated on his principle, burning with the common gas, equalled 22 $\frac{1}{10}$ candles with 5 feet per hour: not ventilated, but burning as an open burner, 19·2 candles. Mr. Leslie's burner, with his combustion glass, burning 3$\frac{1}{2}$ cubic feet per hour, was equal to 20 candles for 5 feet per hour. Mr. Leslie's burner, with a longer parallel chimney, with a contraction to throw the air on to the flame, burning 6·40 cubic feet, was equal to 23 $\frac{4}{10}$ candles for 5 feet of gas. Mr. Leslie's burner, with the same chimney, burning 4·3 feet, was equal to 20·9 candles for 5 feet of gas. The Albert burner, which is a new burner that has come out, and a good one, burning with 5·90 feet, was equal to 23 candles for 5 feet of gas. I was not satisfied at all with Mr. Faraday's burner, burning 19 and 22, and I made him readjust it, and suggested some improvements in it, and then it was equal to 24·54 candles for 5 feet of gas. Mr. Leslie's burner, with a glass cylinder, burning a smaller quantity, trying to bring it as nearly as possible to Mr. Faraday's burner, was only equal to 17; but then that was not burning it to its full quantity, showing the disadvantage of not burning Mr. Leslie's burner up to its full amount. Mr. Faraday's burner, again, with an increased draught put on it, by having lengthened the tube, was equal to 27 candles for 5 feet of gas; and Mr. Leslie's burner, burning 6 feet an hour, equalled 20·42 candles for 5 feet of gas. Mr. Faraday's, by the improvements and putting on an extra draught, was increased above Mr. Leslie's.

583. How was the Albert burner; did you alter the glasses of the Albert burner?

I also altered the glass, and increased one of the Albert burners very much in its light, by putting the glass rather higher up than it is usually turned out from the workshop.

584. Lord *Ashburton.*] Do you mean by a longer chimney?

No, but raising it rather higher up on the burner; that is, to let the glass be a little higher, nearly level with the frame of the burner. That increased it very much. I have not that improved Albert experiment on this paper, but it increased the value of it by doing so.

585. Viscount *Torrington.*] By whom is the Albert burner made?

I do not know; it is a registered burner, I believe. It is an exceedingly good one; in fact, it gave a better result than Mr. Leslie's, or any of them, except Mr. Faraday's last improvement on his burner, with a greater quantity of ventilation. Then I tried with cannel gas. Mr. Leslie's burner, with cannel gas, burning 3·80 feet per hour, is equal to 32·25 candles for 5 feet of gas; and Mr. Faraday's, with a burner drilled for the common coal gas, for he had not had a fine burner drilled for the cannel, was equal to 31 candles for 5 feet of gas. This shows the relative value of the different kinds of burners upon which I experimented. I determined to make these experiments from the idea which there appeared to be that Mr. Leslie's burner was so infinitely superior to any other burner. It is an excellent burner; but there is no very great superiority in it.—(*Vide* No. 1, p. 56.)

586. Are you quite satisfied that Mr. Leslie's burner was properly adjusted?

As far as I could use my own judgment in adjusting it, I think it was; but I should be very glad to give Mr. Leslie an opportunity of adjusting it himself, and bringing it to the greatest amount of perfection he can, and also to give him an opportunity of trying these other burners against his.

587. Viscount *Canning.*] With regard to the system of lighting from the pendants in the ceiling, what is your opinion as to the burners which would be most applicable to that mode of lighting?

Either fish-tail or bat's-wing burners in circles.

588. *Chairman.*]

588. *Chairman.*] Has any alteration been made in the ventilation of the House?

No material alteration, excepting in the arrangement of the valves in the ceiling of the House, by which I have greater power and command over them than I had before. Formerly they used to open in this direction—[*explaining the same*]—the air coming in this way; consequently there was no power of controlling the descent of the air through the ceiling. I have had them changed, so that, by raising them more or less, I can command proportionate quantities of air through the different openings in the ceiling. I have likewise placed some screens across, so as to destroy the momentum of the air. That is the principal thing which I have done in ventilation.

589. Does the air still come up through the table in the centre of the House?

Through the square in the centre of the table, slightly under the regulation of a valve.

590. Have any experiments been made with respect to the ventilation?

Since the Committee last met we made an experiment, in which we filled the whole of the building with gunpowder smoke. I consider that it was most satisfactory: and as regards the House of Peers, in less than 10 minutes the smoke appeared at the ceiling, and in a quarter of an hour it descended to the floor of the House, completely filling the House; and in less than half an hour, in about 25 minutes, it had gone up to the sides of the ceiling, and was disappearing through the sides, showing that the whole air of the House was changed in less than half an hour.

591. That smoke was generated in the cellar?

It was generated in the air-channel which supplies the fan with air. A large quantity of gunpowder was fired, and the smoke was carried by the fan up to the ceiling; it descended to the floor of the House, and then ascended again; and the House was cleared in about 25 minutes.

592. Lord *Ashburton.*] Was it fairly distributed throughout all parts?

Very fairly indeed; it was perfectly uniform.

593. What was the difference of temperature between the in-coming and the out-going currents?

About four degrees.

594. What occasioned the difference in the temperature of the in-coming and out-going currents, seeing that there was nobody in the House, and nothing in the House to warm that air?

The chamber through which the air passes has warming apparatus in it, and the floor of the House has also the means of warming it. There is a large chamber under the House, in which there is steam apparatus which warms the air under the House; the heat is conducted through the floor of the House, and the radiation from the floor warms the House. The air that is supplied to the House passes also through this chamber in separate channels or tubes to the ceiling; and there is an apparatus by which the temperature of the air going in can be regulated at pleasure, so that the temperature of the chamber under the House and the air entering the House can be adjusted as you please; the one being, perhaps, 75°, the other being 61° or 62°.

595. The air was admitted, we will say, at 62°, and it was at the same time filled with gunpowder smoke?

Yes.

596. Being colder than the air in the House, it descended?

Exactly.

597. What gave it heat to rise again?

The general temperature of the floor of the House, which is raised, perhaps, up to 66° or 68° by the warm chamber underneath it.

598. Viscount *Torrington.*] What quantity of gunpowder was used—a great deal?

About 40 lbs. That experiment also applied to the whole of the building, and throughout the whole of the building the smoke was likewise most uniformly diffused;

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diffused; and in less than half-an-hour, or somewhere about half-an-hour, in almost every part it was cleared out again.

599. *Chairman.*] The smoke went also to the House of Commons, did it not?
Yes; but that was a separate experiment, not the same smoke, because the House of Commons has a separate supply of air from another source.

600. Was it not a part of the same explosion?
No; separate explosions, in two operations at different times, of about 10 lbs. each; so that the whole of the gunpowder that was exploded in the Houses amounted to about 60 lbs. I shall be glad to lay my notes of that experiment before the Committee.

601. Will you have the goodness to hand them in?
I will.—(*Vide* No. 2, p. 57.)

No. 1.

EXPERIMENT on Gas Burners of different kinds made by Mr. Meeson, 30 March 1854.

Pressure of Gas 1·4 Inches.	COMPARISON, Reduced to 5 feet cube per hour.	
	Feet per hour.	Candles.
(1.) Mr. Faraday's ventilated burner, with common gas, burning 4·75 cubic feet per hour. Photometer = 21 candles.	5 =	22·10
(2.) Mr. Faraday's burner, not ventilated, burning with a single glass as ordinary burner, 4·75 cubic feet per hour = 18 candles.	5 =	18·95
(3.) Mr. Leslie's burner, with combustion glass, said to be adapted to 5 feet, but consuming at its maximum 3·50 cubic feet per hour = 14 candles.	5 =	20·00
(4.) Mr. Leslie's burner, with long cylindrical glass, burning 6·40 cubic feet per hour = 30 candles.	5 =	23·4
(5.) Albert Argand burner, not burning fully, burning 5 feet cube per hour = 14 candles.	5 =	14·00
(6.) Albert Argand burner, with straight chimney, burning 5·90 cubic feet per hour 27 candles.	5 =	23·00
(7.) Mr. Faraday's burner readjusted, ventilated, burning 5·50 cubic feet per hour = 27 candles.	5 =	24·54
(8.) Mr. Faraday's burner, ventilated, with lengthened draught tube (2 feet), burning 5·50 cubic feet per hour = 30 candles.	5 =	27·3
(9.) Mr. Leslie's burner, with cylindrical glass as before, burning 6 cubic feet per hour = 24½ candles.	5 =	20·42
	Cannel Coal Gas.	
(10.) Mr. Leslie's burner, with cannel coal gas at its maximum, burning 3·80 cubic feet per hour = 24·5 candles.	5 =	32·25
(11.) Mr. Faraday's light, ventilated, but with the burner for common coal gas, and imperfect as to combustion, burning 2·90 cubic feet per hour = 18 candles.	5 =	31·3

No. 2.

No. 2.

A. Meeson, Esq.

4th May 1854.

NOTES made by Mr. MEESON during the "EXPERIMENT on the VENTILATION of the HOUSE of PEERS, and General Building, made on Sunday, 26 March 1854."

STATE OF THE BUILDING.	REMARKS.
The valves of supply were open to the House of Peers and its contiguous apartments, the libraries, committee-rooms, ground floor offices, corridors, halls, cloisters, refreshment rooms, as if business was proceeding; temperatures ranged from 60° to 64°.	The valves of all rooms were open at the same time in this experiment, but this is not generally the case in practice; some rooms being out of use, the others get the benefit of a portion of their supply.
The engine was passing about 130,000 cubic feet of air per minute from the Victoria Tower through the building.	The engine at its maximum will do more than this.
About 40 lbs. of gunpowder was fired behind the fan:—	The gunpowder was fired as rapidly as possible.
H. M. Was commenced at - - 1 15 p. m. And ceased about - - 1 20 „	
Smoke appeared in the Centre Hall at 1. 18.	
Ditto at House of Peers ceiling at 1. 18.	
The smoke descended to the floor of the House, and was thick from the table to the back benches, at 1. 25.	
The smoke uniformly filled the House at 1. 30.	Cubic contents of the House of Peers about 180,000 cubic feet, changed twice in about 40 minutes.
The House was clear of smoke, except a slight haze at sides of ceiling, at 1. 45.	
Quite clear of smoke, at 1. 50.	
Libraries, corridors, committee-rooms, lobbies, clerks' offices, &c. were uniformly filled with smoke to the most remote ends of the building, at 1. 25.	Showing a change of air twice in all these rooms in about 35 or 40 minutes.
Smoke was dense at 1. 30.	
Rooms were clearing of smoke at 1. 35.	
Rooms clear of smoke, 1. 50.	
Building generally clear of smoke, 2. to 2. 10. p.m.	

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned to Monday next, half-past Three o'clock.

Die Lunæ, 8° *Maii* 1854.

LORDS PRESENT:

Earl GRAHAM.	Lord PONSONBY.
Earl DE LAWARR.	Lord SOMERHILL.
Viscount TORRINGTON.	Lord ASHBURTON.
Viscount CANNING.	Lord STANLEY of Alderley.
Lord BEAUMONT.	

THE LORD SOMERHILL in the Chair.

Evidence on the Ventilation and Lighting of the House.

G. Gurney, Esq.

8th May 1854.

GOLDSWORTHY GURNEY, Esquire, is again called in, and further examined as follows:

602. *Chairman.*] THIS report which I hold in my hand is a paper which you have given in since your last examination, I believe?
Yes.

603. Are there any particular observations which you would wish to make to the Committee, besides those which are comprised in this report?
Nothing but what may be necessary in explanation. I think there may be some explanations required, possibly; some reasons why the recommendations are made, in addition to those noticed in the report.

604. You propose that the present open gas-burners in the Royal Gallery and landings be removed, and that ventilated lights, such as those which are in the House, be substituted?
Such as those proposed in my report.

605. What is the difference between those which are proposed, and those now in the House?
There are none on this plan in the House of Lords.

606. Those are proposed by you?
Yes; I recommend four pendant lights, thoroughly ventilated, and of sufficient power, to light the business part of the House; and that the present lights in the galleries be retained, but burnt sufficiently low to prevent the heat which now escapes from them being offensive. The Royal Gallery and the entrance landings I advise should have lights, similar to those proposed for the House, similarly ventilated; I mean, so that the whole of the products of combustion and the heat shall be carried away, so as not to enter the atmosphere of the House.

607. Do you propose that they shall be inclosed in a tube as the present lights are, and that the whole of the gas after burning shall be carried away?
Not under the same arrangement; I propose that they shall be under the same arrangement as the body lights were in the old House of Commons.

608. Lord *Ashburton.*] According to Mr. Faraday's system?
No.

609. Earl *De Lawarr.*] Is not the principle of carrying off the products the same?

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No; one is drawn off by artificial means downwards; the other escapes through the ventilating tubes by its own buoyancy.

610. Ours is drawn off by artificial means?

Yes; the principal objection to that mode is, that the products and hot air, when drawn down through a tube, gets very hot; when it goes up of itself, the pipe carrying it away may be insulated; no heat in that case can escape into the House, it all goes up: it was so arranged in the late House of Commons. For the last 14 years, before the House was taken down, it lighted the House, and no complaint or the slightest objection made to it. I would observe here, that the most agreeable, and certainly the most perfect, system is that which is now introduced into the present House of Commons. I have not recommended it on account of the expense of change in the ceiling to this House; and because, as your Lordships do not sit so long at night as they do in the House of Commons, it was not so necessary. There is no doubt your Lordships' House would be more agreeable and pleasant if it was so done, but I have not recommended it in my report for these reasons: I have recommended the next best, namely, four pendant lights suspended from the ceiling. In my report it is printed "from the roof;" it should be "from the ceiling."

611. *Chairman.*] Do you think that four would be sufficient to light the whole of that room?

I think so. The present lights, when burning about half their power, would light up the sides.

612. Viscount *Torrington.*] You would have those besides?

Yes; I think, as they are there, I should retain them: a part of the sides might be more thrown into shade than was agreeable, and might not look well. I would reserve them; but I would not burn them so high as to occasion inconvenience from heat.

613. Would you not rather propose to take half away?

No; because I think you would get rid of more heat from the tubes when burnt low than you would through half the number.

614. Lord *Ashburton.*] Would you recommend that the stalks upon which they stand should be reduced one-half?

No; half the height of flame. You would not require these lights for the business part of the House; they are too far away for the light to radiate. You must bear in mind that light burns as the square of its distance: one quarter the light in the pendants would be more effective.

615. You said also that you would wish them to be lower; do you mean reducing the length of the stalk?

No; when a light is said to be "high" or "low," it means the comparative length of flame.

616. Earl *De Lawarr.*] In that case you would not interfere with the present mode of drawing off the products?

No; the products are drawn off by those lamps, and therefore the air is not vitiated by them in the House. The objection is not vitiation, but heat. If they were reduced to half their power, I think you would remove the objectionable part of the heat; particularly if the ventilation was improved. The light should be, about the business part of the House, concentrated and powerful.

617. *Chairman.*] With regard to ventilation, you recommend that means be taken to break the momentum of the current of air before it comes into the body of the House, so that it may be in a comparatively quiescent state in the chambers above; do you consider that that can be easily done?

I think it can be done by increasing the sectional areas of the openings; and by intervening wire gauze diaphragms at particular angles. The air now passes with great rapidity; the momentum communicated to it must be expended upon something. We are disposed to think too lightly of the momentum of air, because a feather-balance moves it when at rest; but when we take it in motion, we find it difficult to turn or to stop: the quantity of air which is in motion from the top of the tower, and along the vaults going to your Lordships' House, amounts to about a ton weight; and you may just as well attempt to stop a ton weight upon a railway train as a ton of air in motion. Air is of itself a good

"buffer,"

"buffer," yet you cannot stop it suddenly; but you can break it up by diffusion at proper angles. It now comes into a comparatively quiescent atmosphere; and so it communicates its momentum, producing retrogrades and secondary currents. It may be stopped above, before it gets into the House, by diffusion, by plates of wire gauze at particular inclinations.

618. Do you think that in the same way the current of foul air could pass off effectually and slowly?

It might be made to do so: all air that passes out of a room should be throttled by wire at the exit. The disturbance produced by the increased rate of the current by throttling should take place out of the House. That is done now in the House of Commons. The retrogrades take place out of the House: there is no disturbance in the House. To test the disturbance of the atmosphere of the House, during the recess, I suspended down-feathers from silken threads hanging throughout the whole of the body of the House from the ceiling, at certain heights; so that at every 10 or 12 feet there was a down-feather suspended by a silken thread, which would move with a breath. While the mode of ventilating by throttling through the floor, as originally adopted, was on, the feathers were all in commotion, like a snow-storm; there was scarcely a part of the House that was not in disturbance. But when the wire drawing through the floor was transferred to the ceiling, they stopped, and every feather became still. The disturbance now produced by the passage of air through the House was removed.

619. Lord *Ashburton.*] That is to say, that the whole current of fresh air was vertical?

About three-fifths is now drawn down through the floor; two-fifths is passed up, in consequence of the strangers' gallery having no means of withdrawing air from below it. There are no facilities for doing it; therefore we are obliged to draw the air from the strangers' gallery, through the trellis-work into the passage behind, and from thence up into the extracting shaft; all the rest goes downwards. Fresh air now comes into the House from above; some through the sides under the benches.

620. At what temperature do you introduce the fresh air?

Between 63 and 64.

621. Do you know at all at what temperature the foul air goes away?

It does not go away at more than a degree above the in-coming air, I think; a very large quantity of air now goes through, so that the temperature of the House is not sensibly raised by the numbers. On Friday night, when there was a very full House, from the quantity of fresh air passing, the temperature did not rise one degree.

622. The breath which comes from the mouths of the Members is about 98, is it not?

About 96 degrees.

623. How do you succeed in making air of the temperature of 98 sink under the operation of the introduction of air at 63?

It mixes with a large quantity of air at 63, and brings the mass up to 64; this does not prevent it escaping from below when drawn by the extracting power in operation.

624. The course of nature as to the way in which the earth is ventilated, and the way in which nature intends that we should always breathe air, is this: that nature makes the foul air which we breathe out lighter; it ascends, and goes away from us; and the air that we take in as fresh and cold always keeps close to the earth: you are going to exactly the opposite course; you are attempting, in carrying away the light air at 98, to make it sink, instead of, as nature dictates, rising?

The air as it leaves the lungs is at 98; it passes scarcely a foot into the atmosphere before its temperature is reduced, so that the laws of specific gravity freely act on the products of respiration; all heavier parts sink, and the light ones rise; the temperature of the breath changes so rapidly, that a delicate thermometer is not affected more than nine inches off the mouth: I know the one you have given, it is a favourite theory of explanation; it is not strictly true; it is said to be a beautiful construction—that the mouth passes the breath out horizontally; that the vitiated

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vitiated air rises in virtue of its warmth, and makes room for a stratum of fresh air to take its place; this is not true: men generally breathe downwards, through the nose; most animals do the same, namely, through the nose downwards, expiration being downwards; if the air rose from warmth, it would come up to be respired again: we do not breathe horizontally, but downwards; and this is no doubt intended to get rid of the deleterious portions, which are specifically heavier.

625. But it rises immediately afterwards?
No; it is a mistake. It immediately cools and falls to the floor; you can see the vapour of the breath in frosty weather make distinctly a parabola.

626. Did you ever go into the upper gallery of a theatre?
Yes, and over the ceiling.

627. How do you account for the heat there being such that you can hardly bear it?
From the heat of the body, and want of ventilation. There is no doubt that the air warmed by the skin will ascend, and some of the warm nitrogen from the breath. The heat above is mostly communicated from the person. A man warms five cubic feet of air per minute one degree; this will go up, there is no question of it; but if five feet a minute of fresh air be brought in by ventilation, it takes the mean.

628. Is it not more likely that that air should escape where it naturally goes than be carried down?
The warm air.

629. But the warmest air is the air at 98?
The warmest air is not the vitiated air from the breath. The vapour from the lungs is rapidly dissolved in the air, and as rapidly assists in cooling it.

630. How comes the warmest air not to be the warmest air?
Because of this law, and others I have given, bringing its temperature rapidly down; the most vitiated parts are certainly specifically heavier. They would be carried up if the air continued at 96, I think; but as the air is so very soon reduced in temperature, the laws of specific gravities obtain.

631. The air does not lose its temperature by contact with other air?
Partly; it takes the mean. If one foot of air is mixed with another foot of different temperature, we get the mean of the two; if it is mixed with 10 feet, we then get one-tenth change.

632. One particle of air takes very little heat from another heated particle of air?
If we mix two portions of air together, one at 90 and the other at 60, we shall get 75 degrees, the mean of the two.

633. After a time?
Directly.

634. Not immediately; one rises immediately?
If one rises, it must be supplied by another portion to take its place. We cannot imagine a portion of air to rise without the space which it occupied being instantly filled by an equal portion from around; this comes in immediately—simultaneously. If you look through a sunbeam in a dusty atmosphere, you will observe that there is always a rapid interchange going on; if a portion of air is a degree warmer, it will move upwards, and a corresponding portion will come down to supply it.

635. If the difference is as much as the difference between 62 and 98, you think that a current cannot be immediately produced so as to carry away the hot air at once from contact with the other cold air, and to prevent the diffusion?
No, not practically; it goes a very little distance before it arrives at the mean temperature of the atmosphere; I do not think it goes more than nine inches; I could not detect it in the experiments I have made beyond nine inches. The distance somewhat depends upon the temperature of the room; but it certainly does not go to any sensible distance beyond this.

636. But it does not go down?
I sincerely believe the most contaminated portions do.

637. *Chairman.*]

637. *Chairman.*] Your opinion is very strong, I believe, that all the exhalations from the human body and other impurities in the atmosphere descend very soon?

I think the most disagreeable do; I have no doubt of it.

638. Have you tested your opinion by any positive experiment?

In the ventilation of the Court of Exchequer we have the power of drawing down or allowing it to pass up; when the Court is crowded, if it is drawn down, you can hardly stand in the extracting current; the smell is so disagreeable.

639. Lord *Beaumont.*] But whether it rises or whether it falls entirely depends, does it not, on its temperature?

On its temperature to a certain extent, but more on its quality: some portion of the breath will find its way up; and some will go down, if there is a provision for a free and natural interchange; that which is naturally disposed to go up will do so, and that which is naturally disposed to go down will do so; for the disturbance by temperature affects it very little.

640. And it is only by coming in contact with cold air, which is forced down, that the noxious air becomes so chilled as then to descend?

Exactly. Another condition in respiration, and by far the most important, which has been hitherto unnoticed by physiologists, is that the air, when it is expired, goes out suddenly and acts like a jet; it is a natural jet for displacement, and acts like the steam jet. It instantly produces a current in the direction of its escapage, and fresh air is instantly brought to the mouth or nostrils by following in its wake. The theory of separation by warmth is a poetic one; it originated with Dr. Darwin, and has continued down to the present time.

641. Lord *Stanley* of Alderley.] Have you made any alterations in the House of Commons during the Easter recess?

Yes.

642. Will you describe them to the Committee, and what has been their result?

The change which I have made in the House of Commons is to admit fresh air freely to the lower parts of the House, and also above the ceiling, so that there is now a pneumatic balance between the external atmosphere and that of the House; consequently whatever air is required in the House to maintain this balance comes freely in of itself; no power is used to drive it in. Any break of this balance by the escapage of the vitiated air is instantly and simultaneously restored.

643. Viscount *Torrington.*] Where does it come in?

At the second floor below the House and above the roof. We have made two large air-ways, amounting to several hundred superficial feet area. When those air-ways were first opened, fresh air came in immediately in very large quantities, until it filled the House to an exact balance with the external air; it stopped at last, and all draught ceased; a feather would not move in or out. When the House was ventilated by passing from 6,000 to 7,000 cubic feet of air per minute, there was afterwards no sensible motion. The quantity of fresh air suited to the number of persons in the House at the time is about 6,000. We removed two steam-engines and supplied fresh air, without any blowing apparatus, in exact proportion as it is required. If a foot of air is allowed to escape from above, a foot of air at the same moment comes in of itself to preserve the equilibrium. Another portion comes in above. Part of the vitiated air is drawn from below, through that portion of the carpet on the horizontal floor of the House, namely, in the centre of the House; it is drawn downwards through a special air-channel: this displacement is obedient to the same facilities for balance.

644. Lord *Ponsonby.*] Does the external air come in through the floor in the House of Commons?

Partly through the floor of the House, and partly above. The floor is perforated full of holes under the hair cloth; it is a cast-iron floor, full of holes, like a honeycomb; upon this iron floor the porous carpet is laid, so that the air is free to come through any portion of it.

645. Lord *Stanley* of Alderley.] Does not the air coming in through those perforations in the floor bring up a great deal of dust with it?

None whatever.

 646. Why

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646. Why is that?

Because it comes so slowly that the motion is not sufficient to carry it up; the motion of fresh air coming through the carpet is so insensible that you cannot detect it by the finest dust; it comes in generally through a very large area, for the whole floor is now open. The House is now like an inverted jar, filled with warm air; nothing disturbs it; no cold air affects it. A familiar instance is that of a lady's dress: their petticoats are open at the bottom to the open air, yet in the coldest weather they do not feel cold. The House is now arranged so that, even in a storm of wind, the air would not in the least be affected. While the House is warmer than the external air, you cannot get rid of the air at bottom without force; but if you turned it upside down, the warm air would run out of itself.

647. Are there not windows in the House of Commons opened, so as to admit the free access of the external air?

Yes; the windows are made to open on both sides; not for ventilation, but to sweeten the House.

648. Viscount *Torrington.*] Not during the time the House is sitting?

Yes, sometimes: on Friday night they were not shut until nearly eight o'clock. The reason why the windows so little affect the House is the one I have endeavoured to explain, namely, that there is an exact pneumatic balance between the external air and the House itself. If you open the windows on the leeward side of the House, air will go out; and if you open the windows on the windward side, it will come in, merely from undulation and external disturbance; but if you open one in the basement, it will neither go in or out. One window open on the right, and another on the left, will pass a current right through, if the wind is steady out of doors; and this current will scarcely reach to disturb the atmosphere of the House.

649. *Chairman.*] Does not it make a great current?

No.

650. That is not checked by any artificial means?

No; the exit is equal to the inlet; the outcast and intake are nearly the same, the opening being of the same size; it creates an undulation, but not a disagreeable disturbance. In summer, I think the House will like the windows open during sitting; there is a freshness from them which is very agreeable.

651. Where do you check the momentum of the air coming up from the floor; have you any artificial means of checking it?

There is no momentum; the air is nearly at rest.

652. What difference is there between the temperature within the House and below this perforated floor?

None at all.

653. Where does the change of temperature arise?

In the second chamber below; the air there is warmed to 64 degrees, and it comes into the House at 64; it goes out at about 65 degrees.

654. Have you tried it in tolerably cold weather?

Yes; we have had a change of weather and change of winds.

655. Viscount *Torrington.*] Is not this system of ventilation entirely contrary to the principles which you have stated as meeting with your approval in your evidence here before; I understood you to say that you proposed to bring the air in at the top, and take it out at the bottom?

Yes.

656. But the present principle in the House of Commons is to bring the air in at the bottom, and take it out at the top?

No; you must take the House from top to bottom; the floor of the House is 30 feet above the bottom. The floor of the House, where the carpet is, is only half-way down; the bottom of the House is 30 feet below; that portion of air through the carpet is drawn from the floor of the House, which is still the upper part of it, looking at it as a whole—as an inverted chamber. If you draw the air from the basement below open to the floor, it would be as your Lordship

purposes;

purposes; but there is a special shaft to draw it from a given part of the floor: you will see it by looking at this diagram.

657. *Chairman.*] Are the Committee to understand you, that all the air to be introduced into the House should come in at our feet?
No; about two-fifths only at the floor; I find that to be the pleasantest proportion.

658. And the rest from the ceiling?
Two-fifths from below, and three-fifths from the ceiling; or nearly so.

659. At what level is the bad air to be carried off?
The worst air in the House of Commons now is carried off through the carpet at the centre of the floor, about 30 feet above the basement.

660. Where do you propose to carry it off in our House?
I should take off two-fifths through the centre of the floor of the House.

661. Above or below?
I should take two-fifths from below, and three-fifths from above.

662. Viscount *Torrington.*] Do you think that the whole ventilation of the House of Commons can go through the carpet?
Yes; far more than is wanted; we have passed 30,000 feet a minute through the carpet, and was not felt in the House.

663. *Chairman.*] Does it now pass out of the House of Commons through the floor?
Yes.

664. As well as come in?
I should perhaps explain, that below the House there is a special air-shaft, reaching to the carpet, about 10 by 20 feet; through this the air is extracted; this descending shaft extends all the way from the floor of the House down to the extracting air-course, communicating to the clock tower. The clock tower is now made an upcast; so that the vitiated air is drawn up through the clock tower, after being drawn along the vaults passage, and down through this shaft communicating with the centre of the carpet. The sides of the House—the rising arches are not included.

665. Lord *Stanley* of Alderley.] I understood you at first to say that the air is supplied to the House through the floor of the House; is that the fact?
Yes; two-fifths.

666. You also stated that the air is drawn away from the floor?
Yes; three-fifths.

667. How can the double operation take place at the same time, namely, the admission of the fresh air and the departure of the foul air by the same apparatus?
The floor is divided for the purpose. Fresh air is not only admitted through part of the carpet below, but through the sloping roof above.

668. Can you make a drawing of it?
Yes.—[*The Witness does so, and explains the same.*]

669. *Chairman.*] In cold, or any weather, how do you heat the air in the inside of the House?
The air is warmed before it comes in.

670. It is warmed in the lower chamber?
Yes.

671. Lord *Stanley* of Alderley.] What makes the air go out again at the bottom; is it done by furnace?
Yes; the clock tower is converted into an upcast.

672. Lord *Ponsonby.*] Take an individual sitting near the floor—here is the fresh air coming in, and here is the air being drawn out; would there not be any great current of air?
No, not sensible; it is not sufficient visibly to move smoke.

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673. Earl *Graham.*] Does not it make the legs feel cold, inasmuch as any colder air than that of the room does so?
It is not colder; the air at the feet is the same temperature as the upper part.

674. *Chairman.*] Then how do you cool the House if the Members should find it oppressively hot?
The air is now kept at 64, that being the temperature which appears to give the most general satisfaction.

675. In the chambers where it is first heated?
Yes. In summer there are means providing for cooling.

676. Earl *Graham.*] What is the advantage of the foul air going down this way?
Because the foul air is specifically heavier; it escapes at once.

677. Lord *Beaumont.*] That is the reason why you have a down-shaft as well as an up-shaft, because there will be some of the foul air specifically heavier than some of the other?
Yes. To effectually carry up the emanations from the skin, you must have a strong and inconvenient current to do it—it is better to let nature have her way. Keep the atmosphere of the House in a pneumatic balance, with free interchange, and she will manage the rest. If there are any portions heavier, of which we know nothing about, they will go down, and others will go up, just as they do in the open air.

678. Earl *De Lawarr.*] Then, if I understand you, the balance between these two parts—[*pointing to the drawing*]—is effected without any disturbance at all?
Yes, without any mechanical disturbance. The external air, both on the terrace, the courts, and the roof, is in a balance with the air of the House, a "feather balance;" a feather neither moves in the House, up nor down: now smoke will not do so after its temperature is reduced to the temperature of the House.

679. Viscount *Torrington.*] But some of the foul air does go up?
Some portion of it, but very little; the greater portion goes down; all carbonic acid goes down for certain, for it can be detected.

680. How do you account for the gallery in the House of Lords being more offensive than the body of the House when the House is sitting?
Because there is no escapage downwards.

681. There is a very large escape on both sides?
I do not think much of the vitiated air-escapes.

682. Excuse me—I have seen it: a current of air comes down of one-third, and the other two-thirds go up on each side?
I believe the interchange scarcely reaches to the floor.

683. Did you not make some experiments with gunpowder the other day?
Yes.

684. Mr. Meeson has stated to the Committee, that you exploded in the cellar 40 lbs. weight of gunpowder?
Sixty-eight pounds.

685. That it came steadily down the centre of the House, and passed up the two sides; and that it was about 25 minutes going into the House and coming out, during which period the House was filled?
The House was filled principally by the laws of diffusion of gases. The smoke first appeared at the table, through the centre, like the smoke of a chimney; it then appeared at the side ceiling and passed across. It came down, I believe, under the laws of diffusion, and not from the general current reaching the floor; some of the currents only reached the floor.

686. The Committee understood that the experiment was quite satisfactory as to the air coming steadily in and going out?
I think not; the diffusion of the smoke through the House was very slow. If you let smoke in in this room at one corner, and shut the room up, in less than

than 20, in 10 minutes, it would be diffused over the room where there was no ventilation. There laws of interchange going on in the atmosphere are operating continually, to a very considerable extent; they beat all our artificial means of producing health and purity of the atmosphere; they are always in action. If a window be opened, you will immediately find the laws of interchange effecting a freshness and interchange otherwise unattainable; by throwing a very strong spectrum on a foggy atmosphere, you may see the laws of interchange acting very sensibly. The diffusion of smoke in the House was under those laws.

687. Is not your system of ventilation affected by the windows in the House of Commons being open?
Not so much as you would suppose.

688. It is disturbed?
Yes; by a strong wind, or undulation, of a wave of air; under such circumstances, it will force itself in at the windows; but I do not believe, under these, it will be disturbed when the windows are completed.

689. It is not completed?
No; I propose to put fine wire gauze in the window openings, so that the undulation may be broken.

690. Are the windows open on both sides at the same time?
Not always.

691. Have they been at any time?
Yes.

692. Was not there a great draught in the House?
There was not a disagreeable draught; you could feel it, but not offensively.

693. Lord *Beaumont.*] The more rapidly you produce this interchange of air, the more healthy the atmosphere which is breathed?
Certainly; the greater freedom there is for natural interchange the better.

694. But the difficulty of making that rapid interchange is the fear of creating constant draughts?
If you force them unnaturally; partial draughts on the skin are offensive, because they carry off warmth by evaporation. Then there is another source of sensation of cold, namely, the state of humidity of the atmosphere. I have heard people complain of being cold in a temperature when the thermometer stood at 70. I have likewise known the same person complain of being too warm when it has been nearly down to 60; the reason of that is, not from a draught passing over the skin producing evaporation, but from that which acts exactly in the same way, namely, very dry air; this produces evaporation and cold on the skin. If the break of the hygrometer is 8 or 9, the air is dry and thirsty, and takes moisture from the skin like a draught, and produces the same sensation.

695. Lord *Ashburton.*] What do you consider the proper break?
Four to five: I like myself three degrees.

696. Do you think that at present too much pains is taken to moisten the air in the House of Lords?
In the House of Lords it is done by high-pressure steam.

697. Do you think it is too great or too little?
I should not like to use high-pressure steam to effect the break of the hygrometrical balance; it is impure, and otherwise objectionable. High-pressure steam is at a high temperature; it leaves the jet where it enters the air at a temperature of at least 300 degrees; it instantly becomes expanded, and cooled by mixing with the air, and if you put your hand into it, it will feel cold; but at the point of contact it is 300, and here it decomposes the air; its empyreumatic smell can always be detected after it has passed.

698. Then you object to the mode in which the moisture is communicated to the air?
I do.

699. Do you object, also, to the extent to which moisture is given to the air?
I have not examined it. The mode now adopted in the House of Commons is by

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by evaporation from distilled water at a low temperature, consequently we have no impurities; and the hygrometer is easily kept down to any break; it was done the other night, and it was a general remark that the House never felt so fresh and comfortable. It is a very important point to be able to command the break of the hygrometer, as important almost as the control of draughts of air: keep it as near the healthy standard as you possibly can, like nature does it, by low evaporation of distilled water.

700. Viscount *Torrington.*] Is the air of the House of Commons brought from a high level?

Part of it is brought from above the roof; that below comes in from the court-yards at present.

701. Lord *Stanley* of Alderley.] You recommended, in the House of Lords, as an improvement of the ventilation, that the windows should be opened?

Yes.

702. Do you consider that, by that means, you will get the admission of a purer air without injuring the ventilation of the House?

Yes; for the same reason which I recommended the opening of the windows in the House of Commons, I should do so in the House of Lords, namely, to open the windows after the House is up, and to keep them open till the House meets again, so that the air within may be operated upon by the laws of interchange to purify it. I never proposed, in the House of Commons, to keep them open during the sitting of the House; but the Speaker and Members have wished it, and of course it has been done.

703. Do you think that the effect of having open windows in the House of Commons has been advantageous in the improvement of the atmosphere of the House?

Very considerably.

704. Do you understand that the Members of the House of Commons have expressed themselves as satisfied with the improvement which has taken place in consequence?

Universally.

705. Earl *De Lawarr.*] Still you did not recommend it as a principle of ventilation?

No, not while the House is sitting. I do not recommend the opening of the windows for ventilation; it is to purify the House, to clear away the emanations I have spoken of, which falls from the skin, and strikes to the walls.

706. But not to ventilate the House during its sitting.

No; to sweeten the House when it is up. In the House of Commons the windows have been opened all Saturday and Sunday; and for aught I know, they are open now. My instructions were, that they should be closed before the Speaker took the chair; but a great many Members have wished to have them kept open longer.

707. In point of fact, they have been open during the sitting of the House?

They have been open during the sitting of the House, from four to eight o'clock.

708. Viscount *Torrington.*] Does it affect the hearing in the House at all?

Not the slightest.

709. Lord *Beaumont.*] It is a thing which you can control?

Certainly. I may state, that the House has been in no way disfigured by making the windows to open; you would not know what windows in the House opened or what would not by looking at them.

710. Earl *De Lawarr.*] The system of ventilation is not so perceptible when they are open as when they are closed?

Very nearly. The system of ventilation is the "feather balance," and the air has no great disposition to move.

711. But you would not recommend it?

No.

712. Lord *Ponsonby.*] When the air is very sultry, what steps would you take in the House of Commons?

I should

I should depend principally upon evaporation from cold water from our deep wells. This temperature is about 52 degrees in summer; that is sufficiently low to bring the air down to 64 degrees, our working standard.

713. Lord *Stanley* of Alderley.] By passing the air through wetted cloths?
Yes; and by other assistance.

714. Lord *Ponsonby.*] The air, in going through the floor, will first be wetted?
As it comes into the lower chamber, before it reaches the floor, it will be made to pass over and evaporate a healthy quantity of water; and also from the cloth I propose to make it pass over surfaces cooled by the water as well, reduced to that temperature. We propose also to use a spray jet in case of necessity: in India and in all hot places it is found desirable; I hope it will be sufficient here; if not sufficient, we have the spray jet at command, or cool our surface batteries by ice, which is a cheap cooling process. I have no doubt the temperature in the House of Commons may be kept, during the hottest weather, at 64 degrees.

715. Lord *Ashburton.*] In the House of Commons some time ago, during the very hot weather, I found the air surcharged with moisture, and it felt quite like a cavern; do not you think it possible that you may, by cooling it through moisture, put it into an unhealthy state?
This must have been from high-pressure steam. If there is natural evaporation from water, it will not be overcharged with moisture by cooling it; if it is artificially made to take it up in excess, it will do so: it may thus be carried too far. At the period to which your Lordship refers, I was not connected with the House, and, therefore, do not know how it was done.

716. Lord *Stanley* of Alderley.] You state, that you propose to break down the momentum of the current of air before it enters the body of the House; what means do you propose in order to carry that into effect?
To put up proper diaphragms of wire gauze at proper angles, to break down the central run. The vena contracta will do the sides. The air comes in now, and forms in some parts what is called "the natural brattice." This must be destroyed.

717. Do you think the effect of that will be, that Members sitting upon the benches will not feel a draught at their legs, as the air enters the House?
They will not, certainly, if the areas are large enough; if you make the area small, they may. If a large quantity of air passes through a small opening, it will move at a rate inversely as the area of that opening; if small, it will produce such a jet of air as will disturb the atmosphere to a very considerable amount.

718. Then do you propose to enlarge the orifices through which the air is admitted into the House?
Yes, most certainly; they are covered now. In the House of Commons the great fault was to cover the orifices and stop out the air; it could come in only at small orifices, and hence the draughts.

719. How is it that in the House of Lords there is a great draught to the legs?
By what are called "brattice currents;" it is a term which I used to express peculiar eddies; the term now adopted is "the natural brattice."

720. What is the meaning of that?
A common brattice is the vertical division of an air shaft—in a coal mine to pass air up one side and down the other. When divided by boarding up and down the middle, it is called "a brattice shaft;" the warm air goes up one side, and cold air goes down the other, to take its place; this division is called "a brattice." "The natural brattice" is, when two currents pass each other without any mechanical division; for instance, the warmer air of this room is ascending somewhere in a column. The warmer air so ascending is supplied by a descending column or plate of air somewhere else, to take its place. The still air between the two is the natural brattice; namely, the imaginary plate at rest between these currents. If air is half a degree warmer on one side than another, it will go up on the warm side, and down on the other.

721. Viscount *Torrington.*] You stated that there was a great draught from under the table, and that the smoke from the gunpowder came up?
That was driven in by the fan.

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722. Lord *Stanley* of Alderley.] In the centre of the table there is an opening?
Yes; communicating with the fan driven by the steam-engine below.

723. Are you satisfied that no air whatever is admitted through the holes in the floor where the seats are?
I did not see any; I should say, generally speaking, that they are closed; but there may be some openings here and there; they are very few.

724. Then you believe that any current of air which Members have complained of has not been produced by the admission of air from the floor, but by the variation of the currents of air in the room itself?
Mostly from what is called the natural brattice, augmented by momentum of the incoming air.

725. *Chairman.*] Have you any very decided opinion upon the respective values of different burners which have been invented?
I prefer the concentric burner for all purposes of ventilation: it is the only one fitted for it.

726. You have not invented or taken any part in the invention of any particular burner yourself?
The concentric burner was an arrangement which I made for the purpose of lighting the late House of Commons; we could not get sufficient light that would ventilate itself by any other means: they give a large quantity of light in a small compass, which may easily be insulated.

727. Who provides those burners?
The Government contractors now provide them. They supplied those now in the roof of the House of Commons; they have all ventilating pipes to carry away the vitiated air.

728. You have no concern with the providing of them, or the manufacture?
No.

729. Lord *Ashburton.*] In the experiment which was tried by blowing off gunpowder in the House of Lords, did you find that the air, impregnated with gunpowder, came down regularly from all parts of the roof, or did it begin to descend first from one compartment and then from another, and so on successively?
It came in first through the table, and possibly from some other place. But my attention was more directed to the roof. It came in at first on one side the roof, and then the other; it lay as a cloud for a time, and then diffused and mixed itself with that from the table through the House.

730. Did you observe whether it came in uniformly through the roof, or did it come in more from those compartments nearer the throne?
It came in most rapidly from the table.

731. Much more rapidly?
Yes, considerably so. At first you could observe it as a line of smoke from a chimney; it rose to the ceiling before any came that way.

732. Did you observe that it came down there, and then was carried along the floor of the House, and rose up at the bar?
No; it came down more particularly over the strangers' gallery, and ran along the floor of the House; and up at the throne there was a current of air which deflected the flame of a candle very nearly at right angles. I said "Some door must be open." Mr. Meeson went up, and shut all the doors in the gallery; still it continued. I then saw that there was a brattice in the House of considerable extent. There is no doubt that this draught of air was the horizontal termination of the brattice, running along the floor.

733. Am I right in assuming, from your evidence, that you maintain this principle, that the breath of Members, issuing from their lungs at the temperature of 97 or 98 degrees, meeting fresh air descending at the heat of 63, rapidly loses its heat by contact with that fresh air, and becomes heavier than it, and sinks to the floor, and may be carried away advantageously from beneath?
Yes; most sincerely. The temperature of the breath from the lungs is supposed to be that of the blood, namely, about 98 degrees, and no doubt it is so close

close to the mouth; but the instant it leaves the mouth or nostrils the temperature becomes lowered. Its reduction in temperature arises from two causes: first, from mixture with the outer air; and secondly, from solution of the watery particles which it always contains. The first reduction will be directly as the extent of mixture with the outer air. This mixture is very rapidly formed, because the expiration from the lungs is always expelled suddenly, and acts on the principle of the steam-jet in producing a rapid current, a retrograde of fresh air following in its wake. This is a beautiful provision of nature, and far more satisfactory than any separation could be by simple temperature. The breath being freely mixed with a large proportion of the outer air, solution of its watery particles instantly takes place, and the final reduction effected. So rapidly and effectually is the temperature reduced, that a thermometer will not be affected above at a distance of 12 inches from the mouth. In ordinary weather the vapour in the breath cannot be seen, because of the rapidity of its solution; but in frosty weather it can be seen a short distance only; at this point is the final reduction, and now the laws of gravity begin to act. The warmth in the upper stratum in crowded apartments is air warmed by radiation from the body.

734. Do you further hold this principle, that air passing over or through water will never overcharge itself with moisture, in such a manner as to become unfavourable to health?

I do not think it will, unless it be overheated, and afterwards reduced in temperature; in such case the excess of water would condense, and the air become unhealthy to breathe; but air below 64 degrees will never take up water, except by passing over or through it.

The Witness is directed to withdraw.

MR. JOHN LESLIE is again called in, and further examined as follows:

735. *Chairman.*] HAVE you prepared any report of your observations to lay before the Committee?

Yes.

736. Have you it with you?

Yes.

737. Are you aware of the experiments that Mr. Meeson has made with respect to burners?

Yes.

738. Were you present at those experiments?

No, I was not.

739. Are you aware that he expressed a wish before the Committee that you should attend when he repeated those experiments, that you might be enabled to make any suggestions with respect to them that occurred to you?

As soon as I heard of them, I wrote to Mr. Meeson, and I received an answer from him; I stated that I wished him to try the same experiments in my office, with the photometrical arrangement which I have there, designed by Dr. Lyon Playfair, and put up expressly for him to make a report to the Government as to the Post-office, I think while your Lordship was Postmaster-general. Mr. Meeson said that it would be better to repeat the experiments at his own place, and that I could see them. Accordingly, on Saturday morning, I went down to him, and I saw and copied from his paper of his experiments, and received from him subsequently a copy of them also.

740. Do you mean that you saw a copy of what he considered the result of the experiments, or did you see the experiments repeated?

He had not time to repeat them, but he showed me a copy of the paper that he had submitted to the Committee last Thursday.

741. You did not see the experiments gone through?

No.

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742. You have not seen them to this day?
No; but I saw the whole of his records; and then I saw the photometrical arrangements that he had used upon the occasion. I consider, as I told him, that the whole arrangements were so entirely erroneous that I thought them totally valueless; and I drew up a few observations on the point, in case the Committee should ask me any question about Mr. Meeson's experiments.

743. Have you those observations in writing?
Yes.

744. Will you have the goodness to give them in with your report?
Certainly. The report is dated on the 30th of March, when your Lordships ordered it, but I have had no opportunity of presenting it until to-day. At the same time, if the Committee have no objection, I should like to put in a report of Mr. Clegg's in the year 1848, of his experiments as it regarded the Post-office; and also Dr. Lyon Playfair's report; they are all very short, but they all bear amazingly upon the subject which Mr. Meeson has started in his evidence.

745. Namely, the comparative value of burners?
Yes.

746. Mr. Clegg was at that time employed by the Government, was he not?
Mr. Clegg was employed by the Woods and Forests to report upon the proceedings at the Post-office.

747. And other offices too, was he not?
No; it was confined at that time to the Post-office.

748. What was Mr. Clegg's position at that time?
He was employed as the gas inspector, under certain Acts of Parliament, of preliminary inquiries under the Office of Works—at that time the Woods and Forests. Dr. Lyon Playfair subsequently made another report, which probably your Lordship likewise knows something about. He took nearly two months in making the experiments, both as to the effect of the purification and as to the effect of the light produced.

749. But the report which you are now about to give in, I presume, does not refer so much to purification as to burners?
They both refer to the same thing; they both refer to what the witness has submitted to your notice in the Committee: First, you have Mr. Meeson's report; you have Mr. Clegg's report upon a similar subject; you have then Dr. Lyon Playfair's report upon the whole.

750. And your report?
And my own observations on Mr. Meeson's experiments. There is one point which I have mentioned in that report, that there is no burner of Mr. Faraday's; that it is a mistake in Mr. Meeson's paper to state that there is a Faraday burner. Mr. Faraday has never invented any gas-burner. Mr. Faraday's arrangement is entirely confined to ventilating any gas-burner.

751. Earl *De Lawarr.*] By means of down-draught?
By means of down-draught.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned to Friday next, half-past Three o'clock.

Die Veneris, 12° *Maii* 1854.

LORDS PRESENT:

Marquess of LANSDOWNE.	Lord BEAUMONT.
Earl GRAHAM.	Lord PONSONBY.
Earl DE LAWARR.	Lord ARDROSSAN.
Viscount TORRINGTON.	Lord SOMERHILL.
Lord WILLOUGHBY DE ERESBY.	Lord ASHBURTON.

THE LORD SOMERHILL in the Chair.

Evidence on the Ventilation and Lighting of the House.

The Hon. E. P. Bouverie, M. P.

12th May 1854.

The Honourable EDWARD PLEYDELL BOUVERIE, a Member of the House of Commons, attending, is examined as follows:

752. *Chairman.*] AS Chairman of the Ways and Means Committee of the House of Commons, you have, of course, had to sit in the House for several consecutive hours of late?

I have spent the greater part of my evening in the House on most of the sitting days.

753. Will you have the goodness to favour the Committee with your opinion upon the results of Mr. Goldsworthy Gurney's late alterations in the mode of ventilating and lighting the House?

As far as I can judge, they have been most successful; not only from my own experience, but from what I hear amongst other Members of the House of Commons; I was on the Committee which recommended the change which was made during the last Easter vacation, recommending that Mr. Gurney's scheme should be adopted experimentally; and certainly, as far as we have tried it, I think that experiment has entirely succeeded. The air, before we made the change, I did not think was so bad as many Members were inclined to think. I think it was fresh, but the House was full of draughts; there can be no doubt about that; and certainly now there is an entire absence of anything of the kind, and at the same time the air is very fresh and very pleasant. In fact, as far as I can judge, I think it answers as completely as any artificial system of ventilation could do.

754. While you are free at present from the inconvenience of draughts of fresh air, do you think that there will be no difficulty in sufficiently heating the House in cold weather?

I think not. One of the complaints of the former system, as Mr. Meeson, who gave evidence before the Committee upon which I sat, admitted, was that he could not rapidly control the temperature of the House; it took him a considerable time, 20 minutes or some space of time of that kind, to lower or raise the temperature of the House. Now I think I have perceived in more than one case, since Mr. Gurney has had the management of the House of Commons, that the temperature has been perceptibly lowered or raised in a very short time, when persons have been complaining before that it was too cold or too warm.

755. I presume, when you say that it has been lowered or raised, that it is not subjected to any very great variations?

No;

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No; I think it is kept, as a general rule, at a very equable temperature; but occasionally Members say, "It is very hot; the room is too hot," and once or twice I have fancied so myself; and then I have perceived an increased coolness and a greater pleasantness in the air. One day, about a week ago, there was a very disagreeable smell when the House first met; a burnt smell; not an offensive smell, but like burnt air: I spoke to Mr. Gurney's man, and Lord Charles Russell gave directions about it, and in a very few minutes it was entirely removed; I was informed by Mr. Gurney's attendant that it was owing to some piece of wood being left on the hot water pipe.

756. During the removal you had no inconvenience from any current?
Not at all.

757. Earl *Graham.*] Did you not find it very cold on the night when Mr. Gladstone was making his speech?
No, not where I was sitting.

758. I asked two or three Members how the House was, and they said they found it excessively cold, and very strong draughts came in?
I have heard complaints from one or two quarters of the cold; but I think that there is a great fallacy in it very often; that Members prefer their own feelings to the temperature of the room. A Member who has dined thinks it warm; and one who has been waiting a long time for his dinner thinks it cold; but a fairer test, I think, is sitting a long period of time, as I have to do, in the House. My testimony in favour of Mr. Gurney is more strong, because I was rather against any change. I did not think the last system quite satisfactory; but I was afraid we might get from bad to worse; and certainly, although there were draughts, I considered that the air was fresh.

759. Earl *De Lawarr.*] It was not free from dust?
No; and I think we have been more exempt from that. The first day that Mr. Gurney's system was tried, we had the House in several places hung with feathers, suspended from slight threads, and those were perfectly immoveable.

760. Earl *Graham.*] While Mr. Gladstone was speaking, they opened a window behind him, and it was said that a very great draught came in, so much so that he stopped in his speech, and turned round to see where it came from?
My notion is that it was accidental; that the window was blown open, not being properly fastened, and that there was a gust of wind, and that not only cold air, but a shower of rain came in: it was remedied at once.

761. Viscount *Torrington.*] Have not some of the windows occasionally been opened during the time of the House sitting?
In the early part of the afternoon, while there was daylight; they have been generally shut when the evening has got cold.

762. Do you not think that Mr. Gurney's improvement in the ventilation of the House is mainly attributable to the windows being open?
I have heard it said that the result of our spending 200,000 *l.* in the ventilation of the House of Commons has been to prove that the best way of ventilating a room is by opening the windows. We sit in the House a good many hours after the windows are shut; for instance, we did so last night, and the air, I think, remains very fresh and good.

763. Do you find any difference in the facility of speaking in the House, so that the Members may hear?
I am inclined to think that that is improved; and I have heard the same remark made by others. I account for it by the greater absence of draughts. I imagine that the currents of air impeded the sound.

764. Surely there must be a good deal of dust now in the House, inasmuch as the air comes in from the bottom and the sides of the House?
Last night was the first night I perceived any haze in the House at all; there was a little haze at one time towards the evening, but I rather think it was moisture more than dust. I think the complaints about dust were always rather exaggerated; what many Members thought was dust was really fog from the outside.

765. Earl

765. Earl *De Lawarr.*] They complained, I believe, to a very great extent about the dust?

Yes. One thing with regard to dust is, that there are such a number of persons coming with dirty shoes continually in and out, that there always will be a certain amount of dust on the floor.

766. Which must be carried upwards by the ascending air?

Yes. I understood from Mr. Gurney before the Committee, that his scheme, in its perfection, was to bring the air from above, but that he had not had the time and the means of doing it in the House of Commons, and was therefore obliged to bring it in from below.

767. *Chairman.*] Your seat during some of the longest evenings is in the centre of the House?

I am in one of the best situations for getting the air, because a great deal of fresh air comes in under the Table and under the Speaker's Chair.

768. Under Mr. Gurney's system?

Yes; my impression is so; the floor is hollow there. My impression is, that he takes it away from above. The last time I talked to him about it, he was taking it from above, at the back of the strangers' gallery.

769. Does not it feel cold to the legs?

No, not now; it used to do so sometimes under the old system.

770. Viscount *Torrington.*] Have not all the corridors been made to open by Mr. Gurney?

Those were made to open before, up-stairs in the Committee corridors.

771. Below-stairs; on the same level as the House of Commons?

In the corridor between the library and the lobby they always opened; but I am not quite sure whether the lobby windows have been made to open or not; I have not seen them open. I may observe, that a gentleman who has had considerable experience in close courts, Mr. Phillips, of the Chancery Bar, sat in the Speaker's gallery on the night of Mr. Gladstone's speech, and he was telling me a day or two ago, that he thought it the most perfectly ventilated room he was ever in; he is of delicate health, and probably that would enable him to judge better.

772. *Chairman.*] The gallery to which you allude is behind the Chair, is it not?

It is above the upper seat of the Peers.

773. Just above the clock?

Yes. I think I can speak not only from my own feelings, but it is generally the opinion among the Members whom I have heard mention it, that there is a very great improvement.

774. And you are not subject to draughts as you were?

No.

775. Lord *Beaumont.*] Has not the way in which Mr. Gurney has prevented the draughts from which you formerly suffered been by means of having a second chamber below the House in which the air is admitted, and allowed to remain so long that it gets into a comparatively quiescent state before it passes through the perforated floor and passages into the House?

I was not aware of the process by which he arrived at the result; I only speak as to the practical result.

776. *Chairman.*] Has Mr. Gurney made any alteration in the system of lighting?

The present system of lighting, I believe, was introduced entirely under his direction, and that has been perfectly satisfactory.

777. And an improvement upon the former?

A very great improvement indeed; there were great complaints of the former system, not only as regards the light, but as regards the effect it had upon the temperature of the House, and the comfort of Members in different parts of the House; in the gallery, there were great complaints of it.

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778. Viscount *Torrington.*] Was that alteration made since Easter?
No; it was made, I think, last year.

779. Earl *Graham.*] Was it under Mr. Gurney?
It was done by Mr. Gurney.

The Witness withdraws.

N. Arnott, Esq., M. D.

NEIL ARNOTT, Esquire, M. D., is called in, and examined as follows:

780. *Chairman.*] HAVE you had occasion to examine or to pay any attention to the state of the ventilation and of the lighting of the Houses of Parliament?
After receiving the notice with which your Lordship honoured me to come here, I desired to be able to go and examine them; but I was occupied in another little matter connected with ventilation and warming. I read a paper the night before last at the Society of Arts, and it has really occupied the whole of my time. I should wish very much to go and look, and to know exactly what the state of the case is, before giving any opinions.

The Witness is directed to withdraw.

Mr. John Leslie.

MR. JOHN LESLIE is again called in, and further examined as follows:

781. Viscount *Torrington.*] IN your report which you have given in to the Committee, you put in a paper with remarks upon the report of Mr. Meeson as to experiments which he made with regard to three burners; one the self-ventilating burner, called by him Mr. Faraday's; another called the Albert burner; and the third patented by yourself. Have you carefully gone into the experiments that he made; have you examined them?
I have examined Mr. Meeson's statement of them, but I have not seen the experiments, as he had no order from your Lordships to make those experiments.

782. But you have carefully gone into the report which he made, with the view of submitting to the Committee an opinion whether you consider that report correct or not?
Certainly.

783. You think that that report is not valuable to the Committee?
I think it is valueless.

784. Will you exactly state to the Committee all that you know with regard to the Albert burner, which Mr. Meeson in his evidence has stated to be the best burner that he has tried?
On Saturday last I sent to the makers for an Albert burner, expressly made for cannel gas. I placed it on the experimental meter in my office, under three-tenths pressure of cannel gas, purified by my process. It consumes at that pressure in the proportion of 25 to 19; above 31 per cent. more gas than my burner did.

785. The same experiment which you showed me this morning?
The same. I have placed a pressure gauge on the experimental meter, and subjected the fish-tail burner which is used for cannel gas, the Albert burner and my own burner, all under precisely the same circumstances; and if any of your Lordships like to call in Conduit-street, you can see the three experiments in five minutes. I shall leave these arrangements for several days; the pressure is there at three-tenths of purified cannel gas.

786. What was the comparison of light between the Albert burner and your own?
I should think that we give at least from 48 to 50 per cent. more light with the same quantity of gas.

787. With regard to the fish-tail burner, what light did that give?
It will give comparatively no light at all from cannel gas at three-tenths pressure, a fact almost unknown to the gas-consuming public.

788. You

788. You consider that in Mr. Meeson's experiments, a great pressure was an improper way of making an experiment, with a view of testing the efficacy of the consumption of cannel gas?

It is, in my opinion, of extreme importance to the House to burn cannel gas under a very low pressure, because it allows the purification of the gas to be slower, and it diminishes the chances of leakage and escapes. The chances of escape of cannel gas under high pressure is more, of course, than under low pressure; consequently, in my opinion, the best policy for your Lordships is to obtain the largest amount of light by the slowest movement of the cannel gas, and out of the smallest possible quantity of cannel gas, at the lowest pressure—not for the economy of the thing, but for the sanitary consequences resulting from that system of combustion.

789. Equally so for the joints, which are liable to leak under a great pressure, are they not?

Certainly.

790. I observe in your paper, that Mr. Meeson's photometer was made by the same man who made the Albert burner?

Yes.

791. If I understand you rightly, that photometer and that experiment were not conducted in a scientific manner to test the burners properly?

I have stated in my observations on Mr. Meeson's experiments, that there are two results to be obtained in photometrical observation; first, the quantity of particles evolved, which Mr. Meeson obtains by his process; but secondly, the intensity and penetrating power of those particles, which is a much more important point, and this Mr. Meeson does not obtain; and the photometrical experiment, which I think is a proper test for your Lordships, is one that measures the intensity of the light produced at 20 feet away from the Parliamentary standard candle; that is in accordance with Dr. Lyon Playfair's plan, which he proposed and adopted, when his report, which is now printed by your Lordships, was made of the examination of my various patents in operation at the Post-office.

792. I believe some months ago you tried the Albert burner?

Yes.

793. And the parties who brought it to you at that time admitted that there was no comparison between the two?

They would scarcely go into the question, after seeing the light produced from the same quantity of gas.

794. They brought it to you under the impression that they had got one vastly superior?

They told me so.

795. And they were satisfied upon that examination?

Beyond all question, as your Lordships will be, if you will do me the favour to see the experiments. Allow me to state the reason of the great superiority of my burner; it is strictly philosophical; supposing you burn through a fish-tail burner one, two or three feet an hour, there is only one aperture through which the gas passes; now the distinction in mine is, that I have a great division of the gas; there are in the burner 28 tubes, each tube isolated, so that there is a current of atmospheric oxygen round each of the 28 divided portions of the gas at the points of combustion; the consequence is, that we get the light without that blue flame, which there is in all fish-tail, Albert or other Argand burners, and without the disagreeableness of the wavering and flickering light of the fish-tail burner. The common and received opinion is that the fish-tail burner is the best burner; and so it is for the gas companies, but not for the gas consumers; and it is now being brought forward by the gas companies under the name of a sun-burner. It was proposed by the Liverpool Gas Company to light the Post-office at Liverpool by the sun-burner; that is a circle or cluster of fish-tail burners placed in the ceiling, consuming gas at a very high temperature. I was sent down to Liverpool by the Government to make inquiries as to the quantity, and as to the possibility of its being advantageous for the Post-office. I am sorry I do not see the Post-master-general here to-day. The report which I gave was founded on the best of all possible data: the index of the meter of one of the large places at Liverpool was

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was taken for an hour on several evenings, to see what quantity of gas the sun-burner was consuming, and I made a report as to my objections to it for postal purposes. As far as I recollect, the quantity of gas that was required for the full lighting of the Post-office at Liverpool under the fish-tail or sun-burner system proposed to the Postmaster-general by the Liverpool Gas Company was something short of 1,000 feet an hour of cannel gas. My system was adopted for the Liverpool Post-offices, the same as in the London Post-office—purification of the gas, regulation of the quantity to be used, and my burners. We are using at the Post-office at Liverpool now, very little over 1,500 feet per 24 hours, which would only give an hour-and-a-half's burning in 24 hours under the fish tail or sun-burner system; and the whole quantity of cannel gas used under my patents at the Liverpool Post and Money Order office between the 31st December 1853 and the 10th May 1854, 130 days, is 298,100 cubic feet, not equal to the gas expenditure of two and one-third hours in each 24 hours of the sun-burner system.

796. The experiment which Mr. Meeson made in the House of Lords the other day, lighting it from the centre, was with fish-tail burners; do you imagine that those burners were the sun-burners?

I do not know what they were. Mr. Meeson informed me that, not having the order of your Lordships to try his experiments, he did not ask me to be present, consequently I do not know anything about what he did in that experiment.

797. You suggest in your report that you should have merely one pipe and one chandelier from the centre of the House?

Certainly. Everything that Mr. Meeson appears to have done, by the evidence which I have seen, and from what I gather from your Lordships, is just the reverse of what I have done at the Post-office. Mr. Meeson has enlarged all the main gas supplies of the House of Lords, I understand, to pipes of nine inches in diameter: I have reduced them in the Post-office, which is 50 times the extent of the lighting of your Lordships' House, from six inches to two inches in diameter; and we actually only used yesterday, that is to say, for the 24 hours ending this morning, at the London Post-office, 9,900 feet of purified cannel gas.

798. You consider that one chandelier would give a far greater light than a number of smaller chandeliers, with of course a smaller number of burners?

I am quite certain about it.

799. Will you explain to the Committee why?

I would refer to the Hanover-square Rooms, the Queen's Concert Room, which a great many of your Lordships have done me the favour to see, and if any of you like to see it this evening, there will be a rehearsal of our Amateur Musical Society, during which you can see it from eight to eleven. The light there is in a circle, and all parts of the room are particularly well lighted, I believe. I am speaking in the presence of several noble Lords who have done me the favour to see it. Now, the centre light, in my opinion, is by far the best for your purpose, because the whole body of the light in this circle, which I propose of 10 or 12 feet diameter, would diffuse the light all over the House, and in every corner of the House. And if your Lordships will observe in the report that I was ordered to make, I propose knowing the intensity of the light my system will produce to put those lights 26 feet above the floor-line, rather more than half-way from the floor to the ceiling of the House of Lords, upon a level with where the lights at the side now are.

800. The general evidence given here has been to the effect, that it would be for every reason wiser to have a self-ventilating burner. I imagine your burners cannot be made self-ventilating, from their principle?

My opinion is, that you want in every case the room well ventilated, and not the burner ventilated. In all cases where I carry out my views, they are to ventilate the room itself; and the centre chandelier would powerfully assist the upward current of ventilation of the House of Lords.

801. It would draw the heat upwards?

Certainly. I propose that the whole of the present apertures in the ceiling of the House, which are now divided into three parts, shall be all opened for the upward current, to carry the products of combustion and respiration as fast as they are generated entirely out of the House at once, without any descending current to impede their exit.

802. Are

802. Are you aware that evidence has been given to the effect, that the ventilation can be brought in at the top, and taken out at the bottom of the House?
I have heard of it before, and also at the Court of Exchequer.

803. Lord *Beaumont.*] Are you aware that evidence has been given, that without a down shaft, it is utterly impossible to ventilate the House correctly?
If that is so stated, my answer would be, try the Queen's Concert Room, because a fact is better than an opinion.

804. It is stated on this principle; namely, that the breath, though it quits the body at a high temperature, we will say 98 degrees, yet after being mixed for a certain time with the air of the room, acquires the temperature of the atmosphere of the room, and when that is the case, the noxious particles from their specific gravity fall towards the ground instead of rising, which they would do if their temperature was very high; and that it, therefore, becomes necessary to have a down-shaft, in order to remove those noxious particles which hang near the surface of the floor?
I do not assent to that opinion at all.

805. You deny the correctness of that theory?
I do; I say that the simpler and better way is, when the products of respiration at 95 degrees pass away from you, not to let them descend at all, but to take them away upwards at once.

806. By what means do you propose to keep the temperature of the breath or of that portion of air at such a heat as that it will be carried off?
By the constant gentle ascending current which I should establish the moment the House sits, or rather before the House sits, a gentle ascending current which would produce no draughts, but would take the whole of the products away.

807. Then how do you prevent the temperature of that portion of the air from descending, or its losing at least its high temperature before it reaches the ceiling?
I think the moment it gets half the way up the room, it will meet with the heat from the gas-burners in the centre of the room, and be carried off at once, without any chance of descent.

808. Then at what temperature do you intend to keep the strata of air at the top of the room?
It would not be kept at the top of the room at all; it would pass off continuously through the present apertures in the ceiling to the discharge-shaft.

809. What would be the mean temperature of the passing strata of air at the top of the room?
I should think it would be very little more, perhaps five or six degrees more, than at the bottom of the room.

810. Do you imagine that that would be sufficient still to hold those noxious particles in solution?
I entertain no doubt whatever that they would all pass off in the constant upward current.

811. Viscount *Torrington.*] Your proposals would not in any way interfere with the present arrangements?
On the contrary, as stated in my report now printed by your Lordships, I purposely avoid interfering with the present arrangements of the House of Lords. I say that you may try the experiment, because it will be at such a very small outlay, and it will be so soon determined; and if I should turn out to be right, which I hope would be the case, and which I entertain no doubt would be the case, then there is a very small remaining outlay indeed required for the purpose; there would be simply removing the side burners, and cutting off the 9-inch present gas supply.

812. I see that Mr. Clegg reported very strongly against your burner, and the principle which you laid down for the lighting of the Post-office?
That is why I asked permission of the Committee the other day to put in his report of 1848, because it was intended by Mr. Clegg to stop all my further proceedings in that great establishment. The Postmaster-general and the Government sided with my facts, and not with Mr. Clegg's opinion.

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813. Earl *De Lawarr.*] Do you propose to assist the upward passage of the foul air by any artificial means, such as a furnace in the room?

No; I should put, as I said the first day I was here, a very small firebrick-grate, burning probably in the course of the day 15 or 20 pounds of coals, and use it if it were necessary; I do not think it would always be necessary. And if your Lordships recollect, in one of the first questions on the first or second day that I had the honour to be here, you asked me what would be the expense of trying that mode of ventilation, and I think that I said 20 *l.* for that portion of it. It is the same that we use in the Queen's Concert Room.

814. A fireplace within the House?

Not in the House, but at the discharge-shaft in the roof, to draw quietly and gently away the whole of the foul air generated in the House.

815. Lord *Ardrossan.*] Then you would not propose to pump in any artificial air?

Decidedly not; nothing of the kind; you will find that you do not want it. I believe it is all this pumping, and steam-engines, and fans, that has given your Lordships so much trouble and expense. The fact at the Hanover-square Rooms I think is the most important fact that I could adduce. I should be ashamed to trouble your Lordships, or for one moment occupy your time, if it were a question as it regarded my burner against any other burner; but the question before your Lordships is vastly more important, it is my principle of purifying and consuming gas against the ordinary mode, namely, that you should purify it and get rid of the sulphur and ammonia in the gas, and then by regulating the quantity to be used, and further by the great subdivision of it into minute quantities, get the atmospheric oxygen to produce that large amount of light from a small consumption of cannel gas.

816. Viscount *Torrington.*] Do not you think that the great hostility which is evinced by all the gas companies to your burner is something like evidence in favour of it?

I can entertain no sort of doubt about that; it is the best evidence for gas consumers. If you go to a house and give them more light for about half the ordinary quantity of gas used, at the quarter's end it is ascertained that that burner of Mr. Leslie's is there; and that ridiculous purifier of his is there; and your Lordships know what is the consequence.

817. *Chairman.*] The rent is less?

Of course, it reduces their rental one-half; but in my opinion it increases the welfare of the consumers, and by the sanitary consequences will largely extend gas lighting.

The Witness is directed to withdraw.

A. Meeson, Esq.

ALFRED MEESON, Esquire, is again called in, and further examined as follows:

818. *Chairman.*] YOU made an experiment, I believe, one day in the House with pendant burners for lighting the House?

I did.

819. Could that experiment be tried some evening, when there was a not very late sitting of the House, without much expense or inconvenience to the Peers?

Without any expense at all; or with a few shillings' expense, and without any inconvenience.

820. The Committee would be glad if you would try your experiment of lighting on Monday. Do you think it would be practicable at a future time, as far as you are aware of it, to try the experiment which Mr. Leslie has suggested in this paper, which probably you have read?

I do not know what the experiment is. I have not seen the paper.

821. You will try your experiment; and, in the meantime, you will read this paper of Mr. Leslie's, in which he suggests that, at a very moderate expense, he could allow the Peers to try the effect of a large centre light?

I will do so.

822. Are

822. Are you aware that Mr. Goldsworthy Gurney also suggests a mode of lighting by pendants in the different parts of the House?
I am not.

823. It seems to be something of the same nature as your own. Perhaps, when the evidence is printed, it would be desirable that you should ask for a copy of it. If you see any practical danger or difficulty, or great expense in trying any of those experiments, you will inform the Committee of it?
I will do so.

824. Lord *Ashburton.*] You have arranged the ventilation in successive compartments, have you not?
Three compartments longitudinally.

825. Through which the air is admitted into the House?
One great compartment through which it is admitted into the House is in the centre of the ceiling; the other two compartments for discharge are at the sides of the ceiling.

826. That centre compartment through which it is admitted may be divided longitudinally into three parts?
Yes.

827. Have you not drawn curtains?
Across the supply.

828. So as to divide those separate compartments?
Yes; so as partially to divide the chamber. The supply of air coming in at one end of the chamber in the roof has some degree of momentum, and by this is carried to the other end of the chamber; there it receives a stoppage by the end wall of the chamber, and without the curtains to check the momentum it is liable to be thrown down more through the openings at the end of the chamber than at the point where it first enters. The object of the gauge curtains is to check the momentum of the air in going through the chamber, so as to ensure an equal distribution through the openings in the chamber, but not to divide the chamber.

829. Is that the only contrivance by which you seek to ensure an equal flow of air in all those three compartments?
There is also to each of the openings a valve which can be adjusted to any particular width, so that any of the apertures in either of the compartments may be shut partially or wholly.

830. I felt down below a very strong draught from the throne, towards the bar of the House; might not that be occasioned by the air entering too freely in the first compartment?
It might, certainly.

831. And being drawn out more strongly in the further compartments at the two side portions of the House?
I think the air comes out very equally at the sides; but what your Lordship complains of might have arisen from the valve at that particular time being rather too much open in the first compartment.

832. Would there be any difficulty in having self-adjusting valves?
There would be considerable difficulty, I think, with so slight a momentum as the air possesses, in making it adjust a large valve; it might be possible.

833. Lord *Ardrossan.*] Will you be kind enough to explain what the arrangements are below the table in the middle of the House of Lords?
The table is inclosed with a frame all round it, and a channel is brought from the supply into this inclosure for the purpose of supplying a certain quantity of air through a perforated plate in the centre of the table.

834. You occasionally pump in hot air, and occasionally cold air, as you think fit, through this opening, do you not?
Not there; the supply is regulated to one temperature, about 62 degrees.

835. Then how do you account for the feeling of occasionally hot air coming from below that table, and occasionally cold air?

No air comes from below the table; it comes on the top of the table, and that air, I should say, never varies more than two degrees.

836. How do you account for its oniony smell one day?

I cannot think that it came from that source; but I think that there was a smell from the Peers' kitchens some time ago, to which the House was subject when there was a strong wind from the east, driving the smell from the Peers' kitchens up the stairs into the corridor, and thus into the House. I have taken measures to prevent that; I have doubled the quantity of discharge from the Peers' kitchens within the last three weeks, and have made a discharge channel from the passage where the smell formerly collected. I think your Lordships will not be subjected to any smell of that kind again.

837. Are you perfectly certain that the temperature of the air which comes out from the table is always positively the same?

Within two or three degrees. The small quantity of air that comes through the table I do not think influences the temperature of the House at all.

838. Viscount *Torrington.*] Did you not state that the first place where the gunpowder smoke appeared, when the experiment was made, was at the table?

No, from the ceiling.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned to Monday next, half-past Three o'clock.

Die Lunæ, 15° *Maii* 1854.

LORDS PRESENT:

Earl De Lawarr.	Lord Ardrossan.
Viscount Torrington.	Lord Somerhill.
Lord Beaumont.	Lord Wrottesley.
Lord Ponsonby.	

THE LORD SOMERHILL in the Chair.

Evidence on the Ventilation and Lighting of the House.

Lord Charles James Fox Russell.

15th May 1854.

LORD CHARLES JAMES FOX RUSSELL is called in, and examined as follows:

839. *Chairman.*] IN the position which you hold in the House of Commons, you are necessarily obliged to be hours consecutively in the House; and the Committee would be glad to know your opinion upon the effects produced by the late change in the House of Commons as to ventilation and lighting by Mr. Goldsworthy Gurney—whether, in the first place, you feel less inconvenience from rapid currents of air, cold or hot?

Yes, certainly less; I think that the ventilation is infinitely improved under Mr. Goldsworthy Gurney; but the respect in which, I think, the greatest improvement is evident is this, that we have obtained the great desideratum of freshness in the warm air, which we never had before in the new House. The warm air always appeared to be torrid, cooked, baked; and now we have warmth at the same time, with a freshness about it which we have never had until Mr. Goldsworthy Gurney took the matter in hand. With respect to draughts of air, they are very much diminished. There are draughts, I think, occasionally, but they are very much diminished.

840. From the position in which you sit, you naturally feel draughts from the door as much as any one, do you not?

Yes; it would act upon me, more or less, as a large fan.

841. You think that the draughts have been diminished by Mr. Goldsworthy Gurney?

Certainly.

842. Lord *Beaumont.*] Is the temperature very even now?

They have it under their control.

843. Do they keep the atmosphere of the chamber pretty much at the same temperature?

Yes, they do. I find it necessary sometimes to prompt them. The Members go away between seven and ten. It is necessary to raise the temperature, but they have it under control.

844. Viscount *Torrington.*] Do not you think that the windows being open has made the air appear fresher?

I should suppose so. The air being fresher, and the windows being open at the same time, I think it is a natural inference that it is partly caused by the windows.

845. Will you be kind enough to state to the Committee whether you do not think

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think that the improved ventilation was occasioned more from the windows being opened than from any other arrangement that has been made by Mr. Goldsworthy Gurney?

I can only speak of the effects; having stated that I find the air fresher, and knowing that the windows are open, I think it not an unnatural inference that that must have a considerable effect.

846. Lord *Ponsonby.*] If the House is shut up for a considerable time, do you think that the air is then fresher, towards the conclusion of the evening, than before Mr. Goldsworthy Gurney began?

I think it fresher at all times.

847. That would prove that it was Mr. Goldsworthy Gurney's system, and not the opening of the windows?

Yes.

848. Have not the windows been always open?

Occasionally, since Mr. Gurney's appointment, I think, for about an hour or two in the evening, from four to six; sometimes they are open longer than that.

849. *Chairman.*] They are shut at a period when it is likely that the House will not be so crowded?

Yes; they are generally shut as the evening gets colder, at this time of the year.

850. I presume the temperature of the external air entirely regulates the use of the windows?

Yes; in summer I suppose they would be open during the night.

851. Do you, on the whole, feel contented with the present state of the ventilation of the House of Commons?

I think I have never been quite contented with the ventilation of any building that I have ever been in in my life; I enjoy myself so much more in the open air. I think that the ventilation is more satisfactory than I have ever known it in the House of Commons since I have been there, and I think it is quite as well ventilated as any building that I ever was in.

852. Earl *De Lawarr.*] Has the inconvenience arising from dust been diminished?

I have never been affected by that. I have heard of Honourable Members' throats being affected, but I never was. There was a most marked and decided alteration in this House of Commons, caused by removing the chandeliers from the House. It was lighted first with six or eight large chandeliers, with a great deal of metal about them. I am not subject to headaches any more than from the effect of a crowded room at night, badly ventilated; but when the House was lighted in that manner I was never in the House 20 minutes that I did not feel a pressure on my brow. I did not feel it on the Wednesday mornings, when they were not lighted; therefore it was a fair inference that it was caused by them; and since they have been removed, I have never felt it.

853. Those sensations were probably occasioned by radiant heat?

Yes; though Dr. Reid said that it was Faraday's principle of self-ventilation, and the thing was impossible.

The Witness is directed to withdraw.

Mr. N. Defries.

MR. NATHAN DEFRIES is called in, and examined as follows:

854. *Chairman.*] YOUR attention has been a good deal directed, has it not, to the means of lighting and ventilating houses and large apartments?

Yes, it has.

855. Have you had occasion to see the House of Lords when it has been lighted, or to be in it at the time when there has been any large attendance of Peers?

No, I have not.

856. You are not at all acquainted with the present system of lighting the House?

Not

Not at all; I know nothing about it; all the experiments that I have tried have been with my own buildings and house.

857. Have you never tried your experiments in any large buildings?
Yes, I have, in very large manufactories, in my own profession.

858. Have you tried the system of artificial lighting or artificial heating, or both?
Both; and there is one better than the other, that I have discovered in conjunction with Dr. Backhoffner, of which the Committee have perhaps heard—the gas polytechnic fire, that has the means of giving an artificial fire similar to coals burning, and at the same time producing perfect ventilation. I can now, if your Lordships would do me the honour to call at my house, at 5, Fitzroy-square, show you perfect ventilation there in my very large drawing-rooms, lighting, fire, and ventilation, which are carried on by two chimneys; but I could carry them on by one; but having broken, as it were, two rooms into one, and placing columns, I am compelled to introduce a ventilator to each of the fires; consequently, if I had only had one, I should have had a larger orifice to reject the products of combustion; but there your Lordships will see a perfect coal fire as you would suppose, and producing rather more heat than a coal fire would produce, and the ventilation perfect. In order that I may give the Committee a little idea, I have just taken a sketch of it. I must state that I had only the honour to receive your letter on Saturday, and being of the Israelitish persuasion, I do not, on the Sabbath, do anything; consequently I have only had this morning to consider the matter: I offer that as an apology, but I have made a rough sketch of my mode of ventilation.

859. With that mode of ventilation, how do you heat a large room, as large as the House of Lords; I presume you have seen the chamber of the House of Lords?
Yes; I should introduce fires of that description –[*pointing to the sketch*]— and by these fires I should then ventilate; if not, I have other modes of doing it; I should heat the different tubes also by gas; I would run a series of tubes under the flooring containing heated air. I have also a mode of sending atmospheric air into a building without the aid of a steam-engine or anything that would be expensive.

860. Atmospheric air heated?
Yes; and then heated through the tubes.

861. That would arrive in the chamber through the heated tube?
Yes; that has been the usual mode of heating large buildings, throwing in the atmospheric air by the aid of an engine. But no doubt your Lordships have heard of my dry gas meter, with three compartments, similar to a three-throw pump; consequently I should introduce a water-wheel, or some machinery such as clock-work, that would keep it in motion, and send as much atmospheric air into the building as we should require, then pass it through hot tubes heated by gas, and then that would make a very nice mode of warming. As to ventilation, as I before said, it is perfect in itself. Your Lordships will observe that this—[*pointing to the sketch*]—is a fire-place; this is either clinkers or fire-brick, covered with thin layers of platina foil, placed on a sort of burner expressly contrived for this polytechnic fire, which your Lordships will immediately see was similar to a fire-place, and the hot air passes through this tube—[*pointing to the same*].—There is another tube which surrounds that hermetically sealed, and the product of combustion enters into that inside case.

862. Would the products of combustion be carried entirely out of the building?
Yes. This is an up-draught, the down-draught I did not find to answer. This —[*pointing to the sketch*]—is the opening through which the products of combustion would pass, or the hot air of the room, into the chimney. I would show the Committee at the same time a mode of carrying off the products of combustion of gas. Gas is the best light for any and every room, if the ventilation is properly carried on. Unfortunately for many years that has been lost sight of. I have been employed for several years endeavouring to remove that evil, as it may be an obstruction to gas-lighting; for there are several gentlemen who have consulted me about removing their gas-lights, which have been put up by some gas-fitters,

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not skilful men, and in consequence of the ventilation being bad, in some cases I have introduced the tubes by the same rule, and have overcome that difficulty.

863. Those tubes are introduced into what is called the chimney of the room?
Yes.

864. You always have an open chimney?
We can do without it, but we have a double shaft; the open chimney is for the fire-place. If we have a double shaft we can carry that outside of the building, because the shaft of the centre is that which carries the products of combustion off, and gives the heat to those outside.

865. If you carried it outside, would it be carried in a metal tube outside?
Either—metal, or a chimney, or an earthenware tube; I should not be particular which, so that I had it hermetically sealed and carried it off. I must inform the Committee that this fire will be a great thing for sanitary purposes, as the atmosphere of London would not be at all contaminated with smoke that is produced from coal; and if in general use (and I should be happy if my friend Dr. Backhoffner would co-operate with me to give it to the public), it would make the atmosphere of the metropolis as pure as that 20 miles in the country. I think it would be one of the best things that could be introduced into the country.

866. Do you consider that this fire-place, in which the gas-fire is, throws out sufficient heat to warm a moderate sized apartment?
Yes.

867. By having three or four, you could heat a larger apartment?
Yes, exactly so.

868. How large is the volume of flame?
It is something like a common fire-place, I think; but I must ask the favour of your Lordships calling to see it; it would satisfy the most sceptical.

869. Earl *De Lawarr.*] Is it like asbestos?
No; it is different altogether. This is either clinkers, iron or fire-brick mingled with platina foil. Lord Lansdowne did me the honour to come to see my plans, and Professor Faraday and Professor Brande, and many other scientific gentlemen, who pronounced it to be perfect.

870. Lord *Wrottesley.*] What is the size of your room?
I know that there are 155 yards of carpet in it, and I should say it is about 45 feet long.

871. Lord *Beaumont.*] The whole principle of your ventilation consists of two tubes, one within the other?
Yes.

872. The external tube communicating with the room?
Yes.

873. That is the whole of the machinery?
Yes. As I before stated, it has been a very great drawback to gas-lighting that the ventilation has been bad. I have only to say, that if this was carried out, and I would give it to any clever workman to carry it out properly, it would take off the products of combustion. Suppose this was the side of the House of Lords; there is a burner; this would be connected to this tube—[*describing the same*]—as well as that would, and there would be, perhaps, 10 or 12 lights to this round tube; consequently this you would find draw out the products of combustion, which would go into the air, instead of remaining in the House.

874. *Chairman.*] All the lights for lighting the House would have an open case?
Yes.

875. So as to have no communication with the atmosphere of the House?
Not at all. I have another plan, that is by hot water surrounding the pipes. It is heat that is the necessary medium for carrying on ventilation. Introduce that, and it will take the products off. I can carry one small gas-light under the centre orifice, and carry on the ventilation by keeping the pipes hot.

876. Earl *De Lawarr.*] You think that your plan would be sufficient for the general ventilation of a crowded room?
I am certain of it.

877. Lord *Beaumont.*] What is the quantity of gas that you burn in the fire-place per hour?
For a room like this, I should burn about from 40 to 50 feet of gas; and I have no hesitation in saying that I should warm this room and ventilate it completely.

878. Earl *De Lawarr.*] If there were as many people in it as it could hold?
Yes.

879. Lord *Beaumont.*] Suppose you had to ventilate this room, and warm it, all that you would do would be to fix two tubes up the chimney, one within the other, and the external tube communicating somewhere up in the course of the wall with this room?
Yes.

880. And then bringing a gas jet down into the fire-place?
I should introduce atmospheric air under that fire-place in a tube, and the two tubes within that chimney above would carry on the ventilation.

881. *Chairman.*] Would you require the windows to be constantly closed, or does your system allow of occasionally opening the windows?
You may open them if you please. At the same time let me say, that if you placed this piece of paper up to my ventilator, you would find it would adhere to it immediately; and if you placed a piece of lighted paper, it would draw it in; without opening the windows, the atmospheric air which I should provide under the fireplace would be sufficient to make a draught.

882. With that amount of pressure of air that would cause a piece of paper to adhere, is there any sensible current in your room?
Not at all.

883. Not to make a draught?
Not at all.

884. Earl *De Lawarr.*] You stated, did you not, that you had applied your principle to crowded apartments?
I have crowded my apartment for the purpose of ascertaining whether I had arrived at a proper conclusion, and I trust I have done so.

885. *Chairman.*] The heat produced by crowding the apartment, naturally heating the atmosphere, did not affect the draught?
Not at all. I have had in this room 120 persons, who have had a beautiful atmosphere to breathe. I must inform the Committee, that at the same time I had nearly 50 gas-lights burning in that room, for experiments to carry out my ideas.

886. Lord *Beaumont.*] Do they consist of a chimney connected with a tube?
Not any of them. I must say, that if I had chosen my own burners, I should have chosen Leslie's burners; for these, I consider, the best burners now in existence.

887. Earl *De Lawarr.*] By this burner, how do you get rid of the products of combustion?
By the ventilation.

888. Lord *Beaumont.*] In fact, the ventilation of the room is sufficient to carry off the products of combustion from the burners?
Yes.

889. *Chairman.*] You feel confident that all those products escape, and are carried off?
As the best proof of that, I allow them to enter by lighting the burners, and yet the room is kept cool.

890. Earl *De Lawarr.*] You bring them into the room, and take them out again?
Yes.

Mr. N. Defries.

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891. *Chairman.*] This was done for experiment?

Yes. I think, if I adopted any burner, it would be this plan to carry off the products of combustion in the pipes, so as to have nothing in the room, as may be done with Leslie's burners.

892. Lord *Ardrossan.*] Have you much ornamental gilding in your room?

Immense; more than I should have were it not for the experiments.

893. Do not these gas-burners injure the gilding?

Not at all. There were folding-doors prior to my purchasing this house, and those doors I have taken down to carry out the architectural views which I have. I was obliged to have a sort of frieze, about 2 feet or 2 feet 6 inches; consequently, if I had only the ventilation of one chimney, I should have the gilding injured by the other. I have had the ventilation carried out for each fire-place: but the best proof will be for the Committee to see it, and test it for themselves.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned to Friday next, half-past Three o'clock.

Die Veneris, 19° *Maii* 1854.

LORDS PRESENT:

Viscount Torrington.	Lord Ponsonby.
Viscount Canning.	Lord Somerhill.
Lord Beaumont.	Lord Wrottesley.

THE LORD SOMERHILL in the Chair.

DR. NEIL ARNOTT is called in, and examined as follows:

894. *Chairman.*] HAVE you examined the condition of the House, the neighbouring passages, and so on, with reference to its ventilation?

I have, my Lord, accompanied by the superintendent.

895. Have you been in the House, also, when the Peers have been sitting?

Not since about two years ago, when an inquiry respecting warming and ventilating was being made before a Committee of the House of Commons.

896. Did you see any particular defects in the system, such as it appeared to you on examination you could point out to the Committee?

The defect is, not the impossibility, but the difficulty, of obtaining completely the desired results from the apparatus and arrangement which now exist. There is required here so much skilful management and unremitting attention, that a little error or negligence of a servant may suffice to bring very offensive disturbance of the temperature and air purity. On the former occasion, when I had the honour of appearing before the Committee of the House of Commons, two costly experiments were going on; one by Sir Charles Barry, the other by Dr. Reid, of which it was important to ascertain the results. I did not, therefore, enter into explanation of my own views much further than to describe a more simple and steady mode of moving the air of ventilation, and which mode should both measure accurately the quantity of air that was passing, and give the power of determining easily what quantity should pass. But my opinion then was, and now is, that another procedure altogether for warming ventilating air, not yet tried in large buildings, must be adopted to simplify our ventilating arrangements, and to give security against the kinds of disturbance of which complaints are now so frequently made. I allude to the possibility—not yet well understood even among scientific persons—of effecting a complete transference of the heat from a quantity of a hot fluid to an equal quantity of colder fluid, and therefore from the used warm air of ventilation passing away from an inclosed space to the cold fresh air entering. I have had an apparatus constructed for this purpose, which may be called "The Heat-returning or Heat-restoring Ventilating Pump." With this, a room once warmed by the action of fires, or by the breath of an assembled crowd, may afterwards be maintained equally warm, as well as perfectly ventilated for any length of time, with little or no aid from a fire. The fact, at first, must to many persons appear paradoxical. I shall add a brief explanation. If two equal quantities, say hogsheads, of water, one of them at boiling temperature, and the other at freezing, be made to flow past each other in opposite directions in touching intermingled channels of thin metal, nearly the whole amount of temperature which the one has more than the other will pass to the other; that is to say, instead of there being produced by the process two hogsheads at a middle temperature, the boiling water shall have

Dr. Neil Arnott.

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been converted, with loss of only one or two degrees, into water nearly freezing, and the water which was freezing at first shall be heated to within one or two degrees of boiling.

897. Do you mean mixing them?

No; merely by passing one another in separate touching channels of thin metal, a transference of the heat is effected. I have not found a shorter sufficiently descriptive name for that part of the apparatus than the "Heat-transferring Channels." Now, this principle of heat-transference will be important in many applications, and notably in ventilation. Where there is a crowd of human beings, for instance, in any inclosed space, by using fit mechanical means to force the hot used air out at the roof, and causing at the same time fresh air in equal quantity to enter, passing the foul air in the manner above described, the air entering will acquire within a few degrees the temperature of the air going out; and thus the crowd are able conveniently to warm the fresh ventilating air for themselves. I described, in general terms, this process of warming fresh air by the breath sixteen years ago, in a lecture which I delivered in the theatre of the Royal Institution, "On Warming and Ventilating;" and a few days afterwards, a lately returned medical officer of the East India Company's Service, who had been present, came to say that, if I offered no objection, he would take a patent, which he took accordingly, for the mouth-covering, which he afterwards called a Respirator, now extensively used. This mouth-cover is, in its essence, a mass of wire gauze or pierced plates of metal, which is warmed by the breath passing out through it, and which gives back that warmth to the air passing in; and thus a person breathing through it has a tempered air, how cold soever the external atmosphere may be. It is, however, but an imperfect application of the principle, for the air of the commencing inspiration is much warmer than the air towards the end of it. Dr. Beddoes, of Bristol, with whom Sir Humphrey Davy laboured in his youth, proposed this form of breath-warmer about 60 years ago, but did not take a patent for it. The heat-transferring apparatus on a scale for a capacious room is still very simple. The pumping part of it has light curtain valves, and can be moved by slight force. It is a double pump, or has both a forcing and a drawing action, sending in exactly as much air as it takes out, and thus the difference between the temperatures of the two currents is uniform; and there never can be the very hot blast, nor the cold blast, so often complained of as occurring with other apparatus. The heated air of lamps, added to that of the breath, might sometimes produce too high a temperature in the returning current; but the remedy for this is of course very easy, by not allowing all the entering air to be equally exposed in the hot channels. If a few persons only were in the room, the pump would have to work slowly; if more persons were there, it would have to work more quickly. In the present modes of warming the air for rooms altogether by fires, the activity of which is in no way dependent on the number of persons present, the air may by oversight of the attendant be rendered much too warm, and then comes the complaint of the hot blast; the neglect of the attendant may similarly produce the cold blast; but the heat-returning apparatus is almost self-acting in the maintenance of the temperature desired, and which is near that of the departing air. The pump may be worked by the uniform pressure of water descending from an elevated cistern.

898. There are simple means of moving the air?

There are, my Lord. In adopting the heat-restoring mode of ventilation for the House of Lords, it would be necessary to have the House and the apartments around it, when the Lords were not present, and no ventilation was going on, always kept during night as well as day at the same steady temperate heat; without this condition, a steady comfortable temperature is scarcely obtainable when the Lords do sit.

899. How kept?

By the use of some of the known easy means of warming a room when little ventilation is going on in it. For instance, a well-regulated fire, burning in an ordinary house, with water circulation from a boiler on the fire, will maintain steady temperature night and day for a whole winter with very little trouble to attendants. In the dining-room of my house there is a self-regulating stove, which burns all the winter, and produces a temperature never varying more than a degree or two: the servant has to supply coal once a day, or once in two days, as if he were winding

winding up a clock, and has to remove the ash once a week; there being no more trouble. The expense of keeping a fire thus constantly alight is much less than of lighting it every day to burn only for 12 or 16 hours. I have tried in these few paragraphs to describe the principle of a mode of warming and ventilating, which to me seems to avoid nearly all the difficulties which have occurred in the warming and ventilating of the Houses of Parliament.

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900. Do you feel confident that by this plan there would be no currents of air sufficiently strong to produce the feeling of what is called a current?

I do, my Lord. At present, if one of the houses or rooms becomes too much heated, and there is necessity to cool it, air colder than the desired medium temperature forced in constitutes the cold blast complained of; and if, on the contrary, the room be by accident allowed to become too cold, too hot air admitted to warm quickly becomes the hot blast. Neither of these occurrences will arise according to the plan which I have just sketched.

901. Lord *Beaumont.*] By your plan, the air entering would always be air very nearly of the temperature of the air going out?

It would differ from it but by a few degrees in coming from the ventilating apparatus, and would then be somewhat less warm than the air going out. Any further slight addition or subtraction in regard to its temperature could then be made, if required, by using the aid of the permanent warming apparatus in the House to add heat, or by letting part of the entering air pass with less warming contact to lower temperature. Thus perfect command over the temperature would be maintained.

902. Do you see any other objection to the present system which you have been examining here, except that of not being able to keep the temperature of the air always at the same temperature?

That is the chief objection as matters stand here; but in any new undertaking, the great original cost of the first establishment, and of the subsequent working of the system, would have to be considered. The liability to have the desired working of the arrangements disturbed appears at present to be very considerable. That with such an able superintending engineer and well-trained subordinates it should still be found that the system is far from giving universal satisfaction to Members, seems to prove that there are considerable faults; and on this account I have spoken of a simpler method, not liable to the accidents, and which is strikingly adapted to churches, schools, and other places of occasional meetings.

903. Suppose that there were another chamber close to the House of Lords, into which the air was introduced previous to entering the House of Lords, and where, by the admission of cold and hot air, the whole body of air in that chamber was prepared to be of the temperature desired in the House of Lords, and then allowed only to enter the House of Lords in the same proportion as bad air in the House of Lords was forcibly drawn out; would not that system prevent these sudden changes and blasts of heat and cold?

I fear not, as such a system did exist two years ago in the House of Commons, and yet was found not to give the desired security. Slight faults or oversights, almost unavoidable, produced disturbance there.

904. Neglect on the part of the parties carrying out the system, not any defect in the theory?

Yes, my Lord; but it is a fault in any mechanism to require such nice and delicate arrangement that ordinary care does not ensure the desired result.

905. Do you think it better simply to draw from the House the bad air all at the same time, and to force also the good air in?

The two operations combined do well; but if only one is chiefly to be used, the forcing in is preferable, for several reasons, such as that the drawing out makes all apertures in the room inlets of cold air, and possibly, in certain cases, of impure air. What is called the plenum mode is therefore the safer of the two. The union of the plenum with the vacuum, in exactly equal degrees, exists in the heat-saving ventilating pump above described, and in unequal degrees is convenient in other cases; indeed, it can scarcely be avoided where the plenum only may be intended, because the impure warm air passing away by any elevated shaft or chimney effects a degree of draught or vacuum in that.

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906. Do you think that the removal of the foul air should be exclusively by the top of the room?

I think it should.

907. There is no necessity, you think, for any down-shaft to draw away any impurities near the floor?

There are particular cases where that, to a small extent, might be desirable; but as a general rule, the natural movement of the hot air being upwards, to disturb that movement is to create difficulties which are needless.

908. Lord *Wrottesley.*] Where is this system of yours to be seen in operation?

It has not yet, in all its completeness, on a large scale, been in operation anywhere. I was fully engaged in the practice of my profession, and would have been abandoning duties had I engaged in matters of this nature more than I did. As it was, I made considerable sacrifices. In York Hospital the simple ventilating pump, which is an important part of this apparatus, has been established for two or three years, and when working distributes 2,000 cubic feet of fresh air through the hospital as steadily as the public gas-work sends in its certain number of cubic feet of gas. The Rev. William Vernon Harcourt, distinguished for his scientific knowledge, undertook to have the apparatus placed there, and he published an interesting report in 1852, describing what he had done. His report contains the following extract from the minutes of the General Board of Health, dated 4th October 1850. The apparatus for York had been manufactured by Messrs. Bailey, of 272, Holborn, and was inspected there by the members of the Board before being despatched to its destination: "The Board, accompanied by Mr. Austen, Dr. Sutherland, Mr. Rawlinson and Mr. Rummell, having inspected the new engine and apparatus for the ventilation of the York Hospital, and having consulted their officers, were of opinion that the machine and arrangements were of a highly important character, as going far to solve the question of cheap and effective ventilation. In this case, the ventilation of a building to accommodate 1,000 persons would probably not exceed 1*s.* per day. Considering the importance, in a sanitary point of view, of an apparatus capable, at so small a cost, of regulating day and night, without superintendence, the quantity of air drawn in and out of dwelling and sleeping rooms, the Board deems it desirable to communicate with the Directors of the York Hospital, and to obtain from them the results of its practical working." Mr. Harcourt's report gave the results for the time when it was written.

909. Are you prepared to tell the Committee now, what alterations would be necessary in the House of Lords in order to carry your system into effect?

I have not entered into the matter with a view to do that; but if their Lordships desire it, I shall willingly attend any consultation of scientific men appointed to consider the subject.

The Witness is directed to withdraw.

Professor Faraday.

PROFESSOR FARADAY is called in, and examined as follows:

910. *Chairman.*] HAVE you examined the present system of lighting and ventilating the House of Lords?

I have not examined it for a great many years; I have not examined it since the first arrangement by Sir Charles Barry; and since that time I have avoided the subject of ventilation either in the House of Lords or in the House of Commons. I have preferred keeping myself out of a knowledge of the facts, or the condition of either case, thinking the matter was already too much complicated.

911. Have you had occasion to be in the House of Lords lately during its sitting?

No, I have never been in the House of Lords during its sitting. I have no data to give the Committee. I had better plainly state at once, that seeing the great quantity of discussion and consideration, and the number of persons called in, I for years past have purposely kept out of the way of the subject.

912. Have you ever seen the chamber lighted?

I have never seen it since it has been used; I have seen it lighted in former times before it was used; and my brother and my nephew, under Sir Charles Barry,

Barry, put up the lights; but I have avoided seeing the House, even with reference to them.

913. You have just now mentioned your brother; allow me to ask you incidentally, has not your brother a patent for a particular burner?
He had, whilst alive.

914. It passes by the name of his burner?
Yes; and of which there was a model or specimen in the Great Exhibition.

915. Viscount *Torrington.*] Is it a burner or a ventilator?
It is an arrangement of the chamber with the burner; after the flame and the products of combustion have gone upwards, and before they leave the glasses, they are turned downwards, and carried away.

916. That burner without the glass might be used by anybody; it is not a patent without the glass?
It is the arrangement for burning the gas with the glass, and everything about it, that makes the patent.

917. *Chairman.*] That ventilation could not be applied to every kind of burner; that requires a particular kind of burner; it could not be applied to a fish-tail burner, to Leslie's burner, and to common jet burners?
They tell me that it is very successfully applied to the fish-tail burner at the Fishmongers' Hall; but I have not seen it lately. I did not expect that it would apply well there; but there it is applied; and if your Lordships know the Hall, will be aware whether it is well or ill done.

918. It does not inclose the products of combustion so entirely as to carry them away?
Yes; it does carry them away; there is not a particle of them left in the room; it is exactly to the burner what the chimney is to the fire-place.

919. Viscount *Torrington.*] The burners now in use at the House of Lords are called Faraday's ventilating burners?
I am not personally aware what burners are in the House at this time. I have myself applied the tube system most essentially and importantly to lighthouses, and there its action is perfect; but the object there was different to this.

920. *Chairman.*] They are lighted by oil?
Always by oil. I know that in some cases they were very hot when first brought into use, at the Reform Club, for instance.

921. Viscount *Torrington.*] They require a great pressure of gas, do they not?
They ought not; they ought rather to favour the delivery of gas.

922. Be good enough to explain why they should want a less pressure?
Because of the tubular arrangements connected with them, which occasioning draught, must tend to facilitate the delivery of gas at the burner apertures.

923. *Chairman.*] Should you have any formal objection to be employed, in conjunction with one or perhaps two other persons of eminence, from their scientific acquirements, to make an examination of the present system of ventilation of the House, and to make a report of your opinion upon any preferable system over the present system, that you might jointly or respectively approve of?
In the first place, I do not enter professionally into employment upon anything of this kind. I am always happy to aid the Government when it thinks that others who may be obtained cannot do as well. I should not be induced for love or money, in private cases, to undertake a thing of that kind; I have declined it of late years. In this case I should especially wish to decline, because of the multitude of persons surrounding you on all sides who are connected with the matter under consideration; and also, especially, because of the position of my nephew, who is engaged in the lighting under Sir Charles Barry. I am very happy to help the Government in any case where they may think my assistance valuable, but never as a professional engagement.

924. Lord *Beaumont.*] Suppose the Evidence taken before this Committee of the various plans was referred to you, you would not like to give an opinion upon it?

Professor Faraday

19th May 1854.

I would much rather not do so; I am sure your Lordships could get plenty of evidence, and then judge yourselves upon it better than I could.

925. *Chairman.*] Your objection to the proposition to which I have just alluded would hardly extend, I apprehend, to your forming a general opinion upon ventilation; have you much turned your attention to that subject?

I have had occasion to think a good deal upon it at all times; but it is, practically, an excessively difficult subject. There is the number of the persons to be pleased, the different position of the parties in the place to be ventilated, their personal feelings, the time of day, the season of the year, the few or the many present at once. Generally it is a most complicated problem; and even if the case were a simple and an unchangeable one in respect of time of day, or season or condition of the air, you would find it an excessively difficult thing to manage in a way to be agreeable to more than a few persons at once. Even with reference to our own house, the Royal Institution, there are constantly complaints. All I can then say is, that when the parties are uniform in their evidence as to good or bad, which they never are, I will join with others in re-considering the case; and I quote to the complainers the example of the House of Commons as a proof how desirable it is to avoid meddling with ventilation, the result being often very expensive, and very unsatisfactory, if it is tolerably good.

926. Viscount *Torrington.*] Do you not think it a safe plan always to have the windows to open?

Yes; I should certainly wish to preserve every power of adjustment over the air.

Ordered, That this Committee be adjourned.

Die Lunæ, 12° *Junii* 1854.

LORDS PRESENT:

Marquess of LANSDOWNE.
Viscount CANNING.
Lord BEAUMONT.
Lord SOMERHILL.
Lord WROTTESLEY.

THE LORD SOMERHILL in the Chair.

Evidence on the Ventilation and Lighting of the House.

G. Gurney, Esq.

12th June 1854.

GOLDSWORTHY GURNEY, Esquire, is called in, and further examined as follows:

927. *Chairman.*] I UNDERSTAND from a letter which I have received from you, that you recommend, in preference to all other modes of artificial lighting of the House, lighting through the ceiling in a manner similar to that adopted in the House of Commons?

I do; the same manner as it is done in the House of Commons.

928. Do you feel confident that that light would be strong enough in our chamber, which I believe is considerably higher than the House of Commons?

Yes; distance is not so important as it would seem to be: the light from the burners as they are now arranged in the House of Commons passes into the House, not by radiation or reflection, but by "dispersion." By this means we do not lose light, as by radiation—namely, as the squares of its distance; consequently the distance does not make much difference. I do not think, practically, that the distance of the ceiling from the floor of the House of Peers would be an objection. You will bear in mind, that light reflected from a true parabola does not lose anything by distance—only by passing the opacity of the atmosphere. By dispersion by proper curves, little light is lost in distance—such as from the ceiling to the floor of this House. When it is sent in and diffused in certain directions, little is lost. One great advantage of this principle is, that rays of heat are not passed with rays of light. I prefer this mode of lighting to lighting by pendants on this account. Lighting by this system being more exclusive, it leaves the atmosphere of the House uninfluenced altogether. I find by inquiry, that the expense of fitting up is not so great as I thought when I gave evidence on a former occasion. I have had the ceiling narrowly examined; I find that all the mouldings might be retained, and also the centre panels in every bay; the blue tint panels only need be removed. There are four small divisions in each of the 18 larger compartments; in these smaller compartments are five panels: the centre panel, which I allude to, is the gilded panel. This might remain as it is, and the light brought through the others.

929. Viscount *Canning.*] With the device upon them?

Yes; the exact present device in transparent colour. I do not think that the ceiling of the House would at all suffer in appearance by the change.

930. But the panel would be made of glass instead of wood?

Yes.

931. And in daylight, when the House was not lighted, would they have the appearance of being made of something opaque, and decorated in the way that they are now?

G. Gurney, Esq.

12th June 1854.

You certainly might discover them to be painted glass by looking closely at them, but not else; I do not think they would be at all noticed. The glass panels in the House of Commons by few people, I believe, are distinguished from wood; when they are, they are preferred in appearance: they have a stronger tone of colour, but do not look like glass. I think the colours of the present design in this House might be copied on the glass in colours, and at the same time allow sufficient transparent area for the light to pass. In this House the whole ceiling would be illuminated; in the House of Commons one-third only of the ceiling is illuminated: more diffused light would be sufficient.

932. In your opinion, would the machinery which would be required for putting the lights above the roof interfere with any of the machinery necessary for the ventilation?

No. The lights placed in the chambers through which the fresh air now comes in would have to be insulated; there would be no practical difficulty about it.

933. Would you propose to extend the transparent panels the whole length of the House?

The whole length of the House.

934. It is not so in the House of Commons?

No.

935. *Chairman.*] In the House of Lords you would propose the whole length?

Yes. I do not think that the expense would be an objection when set against the improved appearance and diffusion of light.

936. Do I correctly gather from your letter, that the expense of making the chamber would be only about 200 *l.*?

The expense of the plate-glass panels would be 200 *l.*

937. And the labour and work would probably amount to about 100 *l.* more?

That I cannot tell.

938. It would not exceed 100 *l.*, would it?

I think it ought not. The burner would be simple, inexpensive above the ceiling: there are no ornamental fittings required in the House, which runs away with expense. The expense of fixing pendant lights in the House would be nearly as great, because they would have to be expensively and highly ornamented. The glass panels in the House of Commons are painted; they are not stained. We should expend much in the House itself.

939. Viscount *Canning.*] Ground glass, and painted?

Yes; ground glass painted with transparent colours.

940. Lord *Wrottesley.*] Do you know how many panels altogether there would be of glass?

Yes; there would be four times 18, multiplied by 4, making altogether 288. The price of glass per foot depends on its size: these would be small. When I applied to the glasshouse people for the price, the sizes were sent, supposing four to fill the bay.

941. What is the area of each of those panels?

About seven feet superficial each; they are to inclose an area of five feet by five feet six. I believe all the bays are the same size. Each panel would require to be about two feet nine by two feet six square—a little under seven feet.

942. *Chairman.*] You feel confident that the light would be sufficient?

Yes; I am as confident as a person can be without an actual trial. I think it would be prudent to make a trial of one bay to determine the exact quantity required before all is arranged.

943. Would the consumption of gas be very much greater under this system than it is at present?

No.

944. Would it be double?

No. I do not think the quantity worth consideration under the data in our possession from actual practice. For the ceiling lights in the House of Commons, the

the expense of gas from official returns is only about 4*s.* an hour. I do not think you would require more. The light would be more diffused, but the quantity of light not more. I doubt whether you would burn more gas than is burnt in the House of Commons, which is not more than you are now burning.

945. Viscount *Canning.*] Should you expect that the expense of setting up the pendants would be greater than that of lighting through the roof?

Yes; I think it would be nearly as much; it would much depend upon the ornamental nature of the pendants. If they were very elaborate they would be very expensive. I doubt very much whether you would get the four pendants in the House of Lords for much less than from 200*l.* to 300*l.*, to be in harmony with the expensive way the House is fitted up.

946. Lord *Wrottesley.*] When you speak of the glass panels costing 200*l.*, do you include the painting in that sum?

Yes.

947. Everything?

Yes; the actual cost of the glass is about 1*s.* 6*d.* per foot, and the whole would be about 154*l.* I left a margin for painting and breakage. If the painting is done by stencilling, and does not require a first-rate hand to do it, when you have once settled it, the same pattern would do for all.

948. You could judge what would be the exact extent of the illuminating area from the particulars that you have already obtained, could you not?

I can; I think the centre panel of the five might be left as it is; you would only illuminate the four remaining ones; these, I believe, would be sufficient under the intensity I propose, through the seven feet transparency.

949. Square feet?

Superficial feet. If we multiply this quantity by 4, and again by 18, we get the whole of the illuminated area, which will be in round numbers about 2,000 superficial feet.

950. Two thousand square feet?

Yes; the whole horizontal section of the House is about 4,000 feet; the mouldings and central panel will be about one-half.

951. *Chairman.*] If those panels were removed, as you suggest, and a glass panel substituted, would it be practicable and not very difficult at a future time to replace them if it was desired to change the mode of lighting?

There would be no difficulty; the wood panel when taken out might be dropped again into its original place.

952. Lord *Wrottesley.*] Would they not be damaged in removal?

They ought not to be; and I do not think they would.

953. You said that it would be necessary to try an experiment as to this mode of lighting; would it not be impossible to make any experiment without actually removing the panels?

I think not: so far as theory and calculation go, the opinion I have given is correct. I would only suggest an experiment, to ascertain by actual observation the amount of absorption by the walls, floor and mouldings.

954. Will you state to the Committee how it would be possible to make that experiment without actually removing the panels?

I do not think it could be well done. I think an experiment might be made in one panel, and the light measured by a delicate photometer that reaches the floor, which multiplied by the number would give certain data of what we want.

955. Viscount *Canning.*] Could a measurement by a photometer be taken as a test of what the light would be so far away from the floor of the House?

Yes; we would take the absolute quantity dispersed through one panel, and I think, from the practice I have had in light, I could judge accurately of the quantity required.

956. But even without such an experiment you could do it, could you not?

I could ascertain the quantity at a given distance; but I want the surrounding conditions. I suggest an experiment, because I know from experience that sometimes some little thing turns up in practice, arising from shadow or otherwise, that

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you do not always anticipate. I see nothing, however, likely to arise here. I think the gilding round the House will be found favourable. We should have much cross reflection from those surfaces, which would assist. Colour of carpet and furniture we know, and can provide for by calculation. The reflected light from the gilded mouldings about the House I do not fear, yet I should like to see it; I think it would be favourable than otherwise. The secondary diffusion from such a large sheet of light would not appear in spots, but be generally diffused.

957. *Chairman.*] This panel light you think would be favourable to ventilation?

Yes, very; it would leave the atmosphere of the House entirely free. The atmosphere of the House would be as fresh and pure by night as by day. No interference from the light would affect its purity or temperature.

958. Would you regulate the temperature of the House by the mode which you described to the Committee upon a former occasion?

Certainly. In regard to any supposed heat from the panels, I may observe, we find, singular as it may appear, that the heat is so trifling as not to affect a thermometer hung close under the panels in the House of Commons: one foot distance from the panel the thermometer is not affected one degree. The principle of dispersion is to separate rays of heat from light: light rays pass into the House, but no heating ones. This fact is one of the greatest recommendations in favour of the system I propose.

959. You feel pretty confident that you could keep the atmosphere of the House at an equable temperature according to the plan which you developed on a previous occasion?

I do, certainly. If you continue the plan of the fresh air coming in through the two side panels, it would involve an arrangement for keeping the burners insulated; but if the air is brought in as it is in the House of Commons, partially from below and partially from above, I can now speak positively, there would be a constant and equal temperature.

960. If the Committee and the House decided to leave the matter in your hands, it would be for you to settle that?

I should then certainly make the same arrangement as is in action in the House of Commons. The House of Peers might be easily arranged in the same way.

961. Is the chamber of the House of Lords, with its present arrangement of windows, &c., pretty capable of being regulated as the House of Commons?

Yes; the windows in the House of Commons are not a part of the ventilation. We open them to more freely purify and sweeten the House before sitting; at 5 o'clock in the morning they are first opened; they remain open till 11; then the House is tempered; and they are again opened until the House meets: they remain open till the Speaker orders them to be shut, which is sometimes not till 7 or 8 o'clock. They form no part of the system of ventilation when the House is sitting. The windows in the House of Lords might be made to open exactly in the same way, and for the same purpose.

962. Marquess of *Lansdowne.*] No difficulty arises in that respect in reference to the House of Lords?

None.

Ordered, That this Committee be adjourned *sine die.*

Die Lunæ, 3° Julii 1854.

LORDS PRESENT:

Earl GRAHAM.	Lord BEAUMONT.
Earl DE LAWARR.	Lord REDESDALE.
Viscount TORRINGTON.	Lord SOMERHILL.
Viscount SYDNEY.	Lord STANLEY of Alderley.

THE LORD SOMERHILL in the Chair.

Evidence on the Ventilation and Lighting of the House.

The Right Honourable ROBERT VERNON SMITH, a Member of the House of Commons, is called in, and examined as follows:

The Right Hon. R. Vernon Smith, M.P.

3d July 1854.

963. *Chairman.*] YOU attend, I believe, pretty regularly the Debates in the House of Commons?

Yes.

964. The Committee have had before them, Lord Charles Russell, the Serjeant-at-Arms, whose seat is at one end of the House of Commons, and Mr. Bouverie, the Chairman of Committees, whose seat is at the other end, near the door; probably you frequently sit in the House of Commons in a very different place from either of those gentlemen, and the Committee will be obliged if you will give them your opinion of the effects of Mr. Goldsworthy Gurney's alteration of the system of ventilation, whether it is an improvement or not?

I generally sit about the fourth bench behind the Ministerial bench, and my impression is, in that position, that the ventilation of Mr. Goldsworthy Gurney is a great improvement upon the previous one; I think there is not that stifled, oppressive feeling which I always experienced under the old system of ventilation, and that you are sensible that there is more freshness and lightness in the air. The dust rises very much underneath us; there is a matting over a perforated iron, through which even on first coming into the House, although the mats are said to be dusted and taken up every morning, you do perceive a great deal of dust arising; and if you put down your foot or stamp in any way, still more dust arises. That is one of the inconveniences that I felt of the late system; but it is not remedied by the present system. Then there is another inconvenience which I believe is necessary to Mr. Goldsworthy Gurney's system of ventilation, which is this, that the doors to the galleries are left open. I do not know whether it is peculiar to myself, but I always think it rather unpleasant sitting even in a large room with the doors open; the light through the door constantly attracts the eye where I sit; and also, though I have not spoken in the House often since the new ventilation, once it occurred to me, that it affected my voice. Sitting opposite to the door, the voice seemed to me to go into the gallery, and require greater power than if the doors were closed. I may add that the House is often very cold when we return to our seats after a division, which seems as if the temperature could not be altered very rapidly. Those are the only objections that I perceive to the present system. I went underneath to look at it, but I am not prepared to speak of it scientifically, so that my opinion would be of any value to the Committee.

965. Then the down-draught which the Committee understand to be in the centre of the House of Commons is not effectual in preventing the dust from rising at a short distance from that draught?

No, I should say not; and there is another objection that arises from the iron underneath the feet, that it is very cold. Mr. Goldsworthy Gurney has, I am told,

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on the Ministerial bench, substituted wood, and means to substitute it throughout, which he thinks will be an improvement; but the air coming through, and our feet resting on cold iron, gradually chills the feet. I would add generally, as regards ventilation, that from my experience of three Houses of Commons, the one most perfectly ventilated by far was the temporary one; I do not think that any room I ever entered, where multitudes assembled and were fluctuating, could be better ventilated than that; I believe it was under the management of Dr. Reid; but I am told that he had only one room to manage, and therefore could settle it in a way that cannot be done now, owing to the various draughts arising from the different parts of the building.

966. Under the present system of ventilation in the House of Commons, the Committee understand that the windows over the Speaker's chair are frequently left open during the sittings of the House; do you ever feel any draughts from that cause?

No, I cannot say that I have done so; I have felt it sometimes rather close, and have spoken to the messengers, and they have spoken to the Speaker, who has desired the windows to be opened. Under this system, the windows are opened now from five o'clock in the morning to the time when the House meets; under the old system, there was no possibility of opening the windows.

967. Lord *Stanley* of Alderley.] Are they not frequently opened during the sittings of the House?

Yes.

968. What is the effect of that?

I never found any ill effect where I sit, but then I am a good deal sheltered, being under the gallery; I do not know how it may be in other parts of the House.

969. You think that it gives a fresher feeling to the air?

No doubt.

970. Viscount *Torrington*.] Do not you think that the present improvement of Mr. Goldsworthy Gurney entirely depends upon opening the windows?

I can only speak to the general effect; I do not know whether it arises from one cause or another.

971. Earl *De Lawarr*.] Are the windows frequently opened during a crowded House?

Yes, frequently; I do not exactly know how that is regulated; I have seen them sometimes opened at the bidding of one particular Member, which I think is objectionable, as the feeling of a single Member would be no guide with reference to the House generally.

972. Lord *Stanley* of Alderley.] Does Mr. Goldsworthy Gurney complain that the opening of the windows interferes with his system of ventilation?

He did not complain to me.

Mr. Vernon Smith withdraws.

E. S. Cayley, Esq., M.P.

EDWARD STILLINGFLEET CAYLEY, Esquire, a Member of the House of Commons, is called in, and examined as follows:

973. *Chairman*.] THE Committee have had evidence from Members of the House of Commons, who sit in different parts of the House, respecting the effect of Mr. Goldsworthy Gurney's system of ventilation, and they would be obliged to you if you would favour them with your opinion of the results of that system, and also state the part of the House of Commons in which you generally sit?

The part of the House in which I constantly sit is central, on the first seat on the floor, immediately below the gangway.

974. What do you consider to be the effect of the present system of ventilation?

It strikes me to be very much improved as compared to what it was before. Before the introduction of Mr. Goldsworthy Gurney's plan, you could not sit in the

the House for any time—not for an hour even—without having a tight feeling across the brow, such as you have when there is a want of oxygen; and that has wholly disappeared since his plan was put into execution. The air seems quite pure. For a short time the partial draughts remained uncorrected, but these have been gradually got rid of, as far as was possible, considering the limited area of the powers entrusted to Mr. Gurney. Until there is some more general system adopted, and extending over the whole building, imperfections must exist: he has no control of the Lobbies or the Central Hall. The air into the Central Hall comes from the Victoria Tower, and when there is a great wind, as there was about a week ago, particularly from the south-west, the cowl is so placed at the top of the chimney as to facilitate the access of the air down; and it is particularly open to the wind from the south-west quarter; and on that day it blew such a tremendous hurricane, that no door could be kept shut, except by force: it blew all the swing doors open. The door between the Central Hall and the House of Commons Lobby was blown open. When the Lobby door was open, the House of Commons swing door flew open. All this was in consequence of the air being in the House of Commons comparatively *minus* as compared to the *plus* pressure outside. This of course caused great inconvenience to Members, and was hardly fair to the plan adopted by Mr. Goldsworthy Gurney, because unless the avenues to the House are under his control, as well as the immediate vicinity of the House, it is impossible to keep that temperature of the air required. In all other respects, it appears to me that the House has been signally benefited by what he has done.

975. Was the inconvenience felt within the House?

It was felt within the House, near the Bar, by the door blowing open.

976. You think no very great draught comes in from the door, under ordinary circumstances?

No, not under ordinary circumstances; but the same cause originates the difficulty of ventilating the Library of the House of Commons, and also probably the Library of the House of Lords, and these Committee-rooms. From the Victoria Tower, which feeds the House of Lords, and also the Corridors of the ground-floor Committee-rooms, and all the south front, there is one conduit goes to the House of Lords alone, and another to these Committee-rooms, and to the Libraries. That source of supply is not now under Mr. Goldsworthy Gurney's control, and unless it become so, we should find great difficulty in ventilating our Library separately from the remainder of the south front.

977. Are not the Committee-rooms and the Library of the House of Lords so far distant from the House of Commons, that they might be continued without any injurious effects under the present system of ventilation, while Mr. Goldsworthy Gurney was allowed to ventilate the Central Hall and the body of the House itself, because we generally find the Library of the House of Lords well ventilated; the temperature of the Library is seldom complained of; and I do not know that much fault is found with the Committee-rooms?

Mr. Goldsworthy Gurney or Mr. Kelly, who is the principal officer of Works about the House, probably would give a better opinion than I can; but I have always understood that unless the person who ventilates the House of Commons has the control of that which comes through the Central Hall which feeds these rooms, it would be difficult to effect a satisfactory ventilation generally throughout the building.

978. I think you said you sit on the floor?

Yes.

979. Do you feel inconvenience from the dust there?

No, I cannot say that I do. The dust was extremely inconvenient before the change. Sometimes I have heard Members complain of seeing the dust, but I believe it is very often merely a sunbeam, and they see the smoke in the sunbeam coming down. I think nobody would be more likely to appreciate it than myself, because I suffer from hay fever in summer, and the least dust affects the eyes and the nose in that complaint.

980. Lord *Stanley* of Alderley.] And sitting on the floor, you would be almost the first to perceive it?

Yes.

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3d July 1854.

981. *Chairman.*] Do you perceive that Mr. Goldsworthy Gurney's system has rendered the floor of the House rather more cold?

No, the floor of the House is partially rendered much more warm. It was one of the complaints that we had, that it was too cold to the feet, and we discovered, upon inquiry, that we were sitting with our feet upon iron instead of upon wood; and Mr. Goldsworthy Gurney has contrived a very ingenious plan, by which, when it is finished throughout the House, will be rendered much more comfortable to the Members; that is, he has put wood instead of iron to the feet, perforated; but he heats the iron underneath the wood, so that the temperature, three or four inches above the floor of the House, is raised to perhaps 68° or 70°, when in the rest of the House it is scarcely higher than 64° or 66°. The tendency of men, particularly when they use their brains, is to have the feet grow cold and the head hot, and that leads them generally, in their own houses, to put their feet on the fenders. Before the alteration took place, very often at the height of the head from the floor, the temperature was 70°, while it was only 64° at the feet, thus reversing the order required by nature.

982. Lord *Beaumont.*] You know the theory on which Mr. Goldsworthy Gurney's system is founded, do you not?

Yes, generally. The apparatus for heating is beautifully simple, and well worth any noble Lord's inspection.

983. Viscount *Torrington.*] Do you find great benefit in having the windows open in the House of Commons?

The great benefit is from the sweetening of the House early in the morning; instead of having the House smell like a tailor's shop at the meeting of the House in the afternoon, you have it perfectly sweet, and there is a pleasant impression of purity of atmosphere; but I do not believe there is a very great quantity of air comes in. When the external and internal air are well balanced, I believe the quantity coming in and going out that way is not very great; as much goes out as comes in; but we have had a great improvement lately by opening the window in the Lobby.

984. *Chairman.*] In the Lobby, to which you allude, are the windows painted?

I forget.

985. I put that question because it has been represented to this Committee that there would be great difficulty in altering some of the windows, ornamented with a view to suit the style of the different corridors and halls in which they are placed?

The same objection was made with regard to the windows in the House of Commons, and it was stated that it would cost 1,000 *l.* a window to have them opened; they were opened in the Easter recess without any difficulty.

986. Earl *De Lawarr.*] They are painted, are they not?

They are painted.

987. You state that an objection was raised?

Yes. It was an objection raised, I expect, rather against the system than on account of the difficulty of opening the windows.

988. The objection was over-ruled?

The objection was over-ruled, and the windows were opened, and this has given great satisfaction.

989. *Chairman.*] Have you any reason to suppose that great expenditure attended the alteration?

I believe not; the impression left on my mind is that it was done at a comparatively low expense. I rather think the estimate is given in the Report of the Ventilation Committee of the House of Commons; I know that Mr. Goldsworthy Gurney was asked to give an estimate of what the expense would be, and I do not believe it was exceeded. The same difficulties were made with regard to lighting the Division Lobbies of the House of Commons; it was said that they would take fire; but those difficulties are being over-ruled, I believe.

990. Do you mean by day?
No, by night; by the gas being insulated.

991. Viscount *Sydney*.] Were the difficulties with respect to the windows being opened made by Sir Charles Barry?
I believe they originated, directly or indirectly, in that quarter; but I cannot speak positively.

992. Do they open now with a hinge?
Yes; the half-window opens the whole length, so as not to interfere with the stained glass.

993. Earl *De Lawarr*.] With regard to the external lighting of the House, that is considered to be a decided improvement on the old system?
Yes. One of the reasons why we wanted a change in the Lobby and the Division Lobbies was from the closeness of the air while the gas was uninsulated; when the gas is insulated, and the products of combustion taken away, we have no increase of temperature or vitiation of atmosphere from the combustion. One of the most beautiful parts of that system is, that the lighting does not affect the temperature. It was stated by the opposers of the system, that it had the effect of heating the House very much; but last year thermometers were placed one over the other, a tier of them from the floor to the ceiling, and the temperature was not sensibly affected within a foot of the roof.

994. The light alone entered the House, and no heat with it?
Yes; and the advantages of that system, it strikes me, would be very great in a very ornamented room. The products of the combustion of gas have a very deleterious effect, I believe, upon gilding; it certainly seems to have upon silver plating, as is shown by the clocks in the different Lobbies; but I suspect, in the House of Lords, for instance, unless the gas be insulated, the beauty of the gilding would be destroyed. With respect to ventilation, I would venture to repeat an observation which I made before, that I do not think the ventilation of either House will be perfectly satisfactory until the whole is put under one control.

Mr. Cayley withdraws.

ALFRED MEESON, Esquire, is called in, and examined as follows:

995. *Chairman*.] THE Committee wish to ask you a few questions respecting the degree of certainty that you may entertain of being able to carry off the products of combustion from the atmosphere of the House, if the pendant lights which are now under trial should be permanently adopted?
I feel quite certain that I could carry off the whole of the products from the pendant lights without any difficulty whatever.

996. By what process?
By placing over them a tube to communicate with the discharge shaft of the House itself, and in casing that tube with a second tube through which a current of air will be passed, for the purpose of preventing the radiation of heat from the tubes.

997. Earl *De Lawarr*.] Is that upon the principle of the present side lights?
No, it is not.

998. Lord *Stanley* of Alderley.] Would you propose to keep the lights as far from the roof as at present, and to have a glass tube projected as far into the House?
I would not propose to alter the position of the lights very much, but I would keep them at their present distance from the ceiling.

A. Meeson, Esq.
3d July 1854.

999. Would you have a long glass tube extending from the ceiling to where the light now is?
No, a metal tube brought over the light around the present gas-pipe that descends to the lamp, and by that means the whole of the products of the gas would be carried off.

1000. Could that be done without a considerable alteration?
Yes, there is already a hole through the pendant sufficiently large.

1001. Lord *Beaumont.*] Would it not be very ugly?
I think it might be made to be an ornament to the ceiling; I have shown a sketch to Sir Charles Barry, and he approves of it.

1002. How thick would it be?
Three inches and a half in diameter.

1003. Viscount *Torrington.*] Would not there be great danger from the tube becoming hot and setting the place on fire?
No, it would have a double tube so far as it was below the pendant, and a treble tube through the pendant, and between each of those tubes there would be a current of air passing into the discharge shaft, so that the heat between the third tube and the pendant would not be more than 60° or 70°.

1004. What will be the diameter of the outside tube?
Three inches and a half; the one through the pendant would be rather larger.

1005. Earl *De Lawarr.*] Will that be a forced discharge of the products of combustion, or a natural ascent?
A natural ascent by the rarefaction of the air.

1006. Not a forced discharge?
No.

1007. *Chairman.*] Are you aware whether it would be possible to make the present windows of the House of Lords to open?
It would be possible to make them open; but it would be done with a good deal of expense, I think.

1008. What would be the nature of that expense; would it be that you would require to alter the whole of the stone-work?
The metal frame-work of the sashes would require to be altered.

1009. If it were confined to a few of those windows, say a dozen figures on each side, the expense would not be very great; would it exceed 10*l.* each figure?
I should think it would exceed that: there are two metal frames; there is an inner frame for the stained glass, and an outer frame for the plate glass; each are in a separate frame, and the plate glass would have to be cut, and a new frame arranged to make that open, as well as the stained glass frame.

1010. Would the new frame diminish the quantity of light admitted?
Not at all.

1011. The surface through which light is admitted would be the same?
Yes.

1012. You speak of that outer frame; the necessity for that is chiefly caused by the artificial lighting at night, is it not?
No; that was arranged to preserve an equable temperature in the House in very cold weather, by providing a space or stratum of air between the two glazings, which should prevent the cooling action of the external atmosphere upon that of the House.

1013. But it continues all the year round?
It continues all the year round; it also tends to keep the House cool in the summer. The stratum of air between the two glasses prevents the action of the sun

sun from heating the House so much as it otherwise would.—(*The Witness exhibits a Diagram, and explains it to the Committee.*)

1014. You contemplate the permanent continuance of cannel gas?
Certainly.

1015. Earl *Graham.*] The blowing in of the air still continues in the House of Lords, does not it?
Yes, it does.

1016. There is a very great draught?
Sometimes; it has been the custom of people to open the side doors of the gallery, and sometimes the windows also of the small corridors opposite them; then I think a draught has been felt in the House.

The Witness is directed to withdraw.

Ordered, That this Committee be adjourned to Friday next,
Four o'clock.

APPENDIX.

Appendix A.

New Palace, Westminster, 1st March 1854.

No. 1.

A Return of the Hourly Cost of Lighting the Two Houses of Parliament, distinguishing the Quantity of Gas used in each House.

HOUSE OF PEERS, including the adjoining Lobbies and Corridors.

Average cost for gas, wax candles, oil, attendance, glasses, repairs, &c. &c., 18 *s.* 11½ *d.*
Consumption of gas: average 1,520 feet cube per hour.

HOUSE OF COMMONS, including the adjoining Lobbies and Corridors.

Average cost for gas, wax candles, oil, attendance, glasses, repairs, &c. &c., 1 *l.* 16 *s.* 11 *d.*
Consumption of common gas, 230 feet cube per hour.
Consumption of cannel gas, 971 feet cube per hour.

No. 2.

A Return as to whether the Gas used is ordinary Coal Gas, or Gas made from Cannel Coal, and from whence supplied.

The gas used in the buildings generally is common coal gas.
That used in the House of Commons' ceiling, and under the Galleries, is gas made from cannel coal.
The whole is supplied by the Chartered Gas Light and Coke Company.

No. 3.

A Return of the Number and Description of Gas-burners used in the Two Houses of Parliament.

HOUSE OF PEERS.

House of Peers, 32 large double-ring burners, 178 holes each.
Prince's Chamber, four large double-ring burners, 178 holes each.
Peers' Lobby, four large double-ring burners, 130 holes each.
Door Lobby, one large double-ring burner, 130 holes.
Pendant Lights in Corridor, 10 large Argands, 40 holes each.
Side Lights in Corridor, eight large Argands, 40 holes each.
Staircase, Bishops' accommodation, seven large Argands, 40 holes each.
Upper Corridors, Bishops' accommodation, and Reporters', 12 fishtails, No. 4.
Draught burners, four ring burners, 160 holes each.

HOUSE OF COMMONS, &c.

Ceiling of House of Commons, 64 large double-ring burners, 116 holes each.
Pendants to ditto, 10 large double-ring burners, 116 holes each.
Galleries of ditto, 40 No. 1 fishtails.
Lobbies, 16 large double-ring burners, 130 holes each; 60 No. 2 fishtails.
Roof, &c., four No. 2 fishtails.
Draught burners to Gallery Lights, one three-ring burner, 6 inches diameter; one two-ring burner, 6 inches diameter.
Draught burners to Water-closets, 72 No. 2 fishtails.

Appendix A.

No. 4.

A RETURN of the Number and Description of Burners in use in each separate Apartment, Hall, Corridor, and Office, in the Houses of Parliament.

For Houses of Peers and Commons, *see* Return No. 3.

SITUATION.	DESCRIPTION OF BURNER.							
	Argands.			Dog's-tooth.	Fishtails.			
	12 Holes.	30 Holes.	40 Holes.		No. 1.	No. 2.	No. 3.	No. 4.
Royal Gallery	–	–	–	–	–	–	–	86
Royal Staircase	–	–	–	–	80	–	–	–
Victoria Tower	–	–	–	–	–	80	–	–
Meter House	1	–	–	–	–	–	1	–
Engineer's Residence	–	2	–	–	1	9	26	11
Lower Waiting Hall and Corridor	–	–	–	–	–	20	–	–
Upper - - ditto	–	–	–	–	–	–	16	–
Staircase to - ditto	–	–	–	–	–	12	–	–
Upper Committee Room Corridor	–	–	–	–	–	–	4	32
Library Corridor	–	–	–	–	–	7	60	–
Commons' Library	–	–	–	–	–	–	48	–
Oriel Room in ditto	–	–	–	–	–	–	–	6
Tea Room	–	6	–	–	–	–	–	–
Chairman of Committees	–	7	–	–	–	–	–	–
Deputy Serjeant-at-Arms	1	–	–	–	–	–	2	–
Library Office, Ground Floor	–	–	–	–	–	–	24	–
Speaker's Corridor	–	–	–	–	–	–	12	–
Speaker's Retiring Room, Messengers' Room, Serjeant-at-Arms' Room, Assistant Serjeant-at-Arms' Room, Clerk's Assistant and Second Clerk's Assistants Rooms	–	2	–	–	–	–	11	–
Bishops' Corridor	–	–	–	–	–	–	8	–
Peers' Corridor	–	–	–	–	–	–	8	–
„ Staircase	–	–	–	–	–	2	3	–
Bishops' Rooms	–	–	–	–	–	4	6	–
Staircase to ditto	–	–	–	–	–	2	6	1
Doorkeepers to House of Commons Room	–	2	–	1	–	–	–	–
Back of Speaker's Chair	–	–	–	–	–	12	–	–
Court Yards	–	–	–	–	3	36	–	16
Cloisters, Writing Room	–	4	–	–	–	–	–	–
Lanterns to Cloisters	–	–	–	–	44	–	–	–
Passage to - ditto	–	–	–	–	–	–	4	–
Washing Room, Closets and Urinals	–	–	–	–	1	1	8	–
Cloak Room	–	–	–	–	–	37	–	–
Passage to ditto	–	–	–	–	–	12	–	–
Central Hall	–	–	–	–	–	68	–	–
St. Stephen's Hall	–	–	–	–	–	–	92	–
St. Stephen's Porch	–	–	–	–	–	–	52	–
Private Bill Office	–	–	–	–	–	–	1	22
Post Office	–	2	–	–	–	–	–	–
Treasury Staircase	–	–	–	–	–	5	–	–
House of Peers' Kitchen	4	–	–	–	–	–	28	–
„ „ Library Door Keeper's Room	–	–	–	–	–	1	–	–
House of Commons' Kitchen	–	–	–	–	–	–	39	6
„ „ Refreshment Room	–	30	–	–	–	4	1	–
„ „ Entrance to ditto	–	–	–	–	–	6	–	–
„ „ Smoking Room	–	7	–	–	–	–	–	–
„ „ Strangers' Refreshment Room	–	4	–	–	–	4	–	–
Vote Office	–	–	–	–	–	–	1	–
Clerk to House of Commons Residence	–	21	–	–	–	36	26	–
Lantern to - ditto	–	–	–	–	–	–	–	4

RETURN of the Number and Description of Burners in use in each separate Apartment, &c.—*cont*[d]. Appendix A.

SITUATION.	DESCRIPTION OF BURNER.							
	Argands.			Dog's-tooth.	Fishtails.			
	12 Holes.	30 Holes.	40 Holes.		No. 1.	No. 2.	No. 3.	No. 4.
Librarian's Residence	–	6	–	–	1	16	31	15
Lantern to ditto	–	–	–	–	–	–	–	4
Reporters' Staircase	–	–	–	–	–	–	–	8
Ladies' Staircase	–	–	–	–	–	–	6	–
Star Court	–	–	–	–	–	76	6	4
Engineer's Offices and Passages	–	–	–	9	1	2	7	1
House of Commons' Boiler House and Staircase	1 single jet		–	–	–	–	8	–
Boiler House and Ventilation	–	–	–	–	17	1	8	2
Lamp Room	–	–	–	–	–	2	10	2
Clerk of Work's Office	–	8	3	–	3	–	9	–
Westminster Hall	–	–	–	–	–	102	114	–
River Front	–	–	19	–	–	–	–	–
Lord Chamberlain's Office	–	1	2	–	–	–	16	–
Lantern to ditto	–	–	–	–	–	4	–	–
Journal Office	–	–	–	–	–	–	50	–
Water Closet to ditto	–	4	–	–	–	–	–	–
Crown Office	6	2	–	–	–	–	–	–
Telegraph Office	–	–	–	–	–	–	1	–
Submarine ditto	–	–	–	–	–	–	2	–
Watchman Lobby	–	–	–	–	–	–	1	–
Upper Journal Office	–	6	–	–	–	–	5	–
Public Bill Office and Passages to ditto	–	–	–	–	–	–	9	–
Corridors to Peers and Commons	–	2	–	–	–	–	11	–
Carvers' Shops	–	–	–	–	–	–	3	–
Reporters' Gallery, Ventilating Shaft	–	–	–	–	–	24	–	–
House of Commons' Water Closets, Ventilating Shaft	–	–	–	–	–	48	–	–
Furniture Stores, Peers	–	–	–	–	–	–	3	–
Ditto - Commons	–	–	–	–	–	–	3	–
On Staircase to Ventilating Shaft	–	–	–	–	–	–	2	–
Official Residences	4 Gas Baths.							
	3 Gas Cooking Apparatus.							
Commons' Kitchen	1 Ditto - - ditto.							

No. 5.

A RETURN of the Quantity and Cost of Oil in use, also the Quantity and Cost of Wax and Sperm Candles used.

Number of Oil Lamps in use:

442 Argand Lamps.
111 Flat Wick ditto.
102 Round Wick ditto.

	£.	s.	d.
Cost per annum, including attendance - - -	4,010	18	4

Wax and Sperm Candles:

4,378½ lbs. of Wax and Sperm Candles.

	£.	s.	d.
Cost per annum, including attendance - - -	578	18	4½

This does not include the Lamps and Candles supplied by the Serjeant-at-Arms of the House of Commons.

Appendix A.

No. 6.

A RETURN of the Annual Cost of Lighting the Palace at Westminster, and distinguishing the different Sums paid for Gas, Oil and Candles.

	£.	s.	d.
Gas:			
Paid to the Chartered Gas Light and Coke Company, from 1st January 1853 to 1st January 1854 - - - -	1,934	18	5
Oil:			
Paid for Oil and Attendance, from 1st January 1853 to 1st January 1854 - - - - - - - - -	4,010	18	4
Candles:			
Paid for Candles, from 1st January 1853 to 1st Janaury 1854 -	578	18	4½
	£. 6,524	15	1½

This Return does not include the Lamps and Candles supplied by the Serjeant-at-Arms of the House of Commons.

New Palace, Westminster,
1 March 1854.

APPENDIX B.

Appendix B.

My Lords,

IN pursuance of your order of the 20th ultimo, I have examined your Lordships' "House, contiguous Chambers, Galleries, and Passages, with regard to their state of Ventilation and Lighting, and beg to report my opinion thereon," as there requested.

The ventilation is generally deficient. Natural interchange with the open air is almost entirely cut off, and the air brought in by artificial means badly diffused. The lighting is in many respects objectionable.

The grounds on which this opinion is founded, will appear on consideration of the existing conditions of the House; and the suggestions which I shall submit for its improvement will naturally present themselves.

The whole of the air for ventilation of the House of Peers; all the Committee-rooms, Libraries, Corridors, Passages, and other Apartments; together with those of the House of Commons; is brought through one underground air-shaft or tunnel, from two smaller shafts down the Victoria Tower, and driven by machinery through various channels to the several parts of the building. The motive power employed is a centrifugal fan, worked by a powerful steam-engine. The air is thus expanded behind, and compressed in front; and subjected to great friction in its rapid rate of transit, through long and tortuous passages. That portion which goes to the House itself (namely, the debating chamber) comes through a branch from the trunk, and is first discharged into two chambers immediately above the ceiling. From these chambers it passes under the panels, and through perforated mouldings, into the body of the House. There are three chambers made above the ceiling, each extending over a third of the whole area, laying horizontally, from over the Bar to the Throne. The air passes in through the two side chambers, and out through the centre one; which latter is connected to an up-cast shaft, rarefied by steam. The Committee-rooms, Libraries, and other apartments have separate air-courses leading to them from the great trunk, and terminating above their ceilings in the same way. The space above the ceiling in these rooms is not divided into three division chambers, as above the House, but into two only. The air enters through the one on the one side, and goes out at the other under the panels and perforated moulding. In the long corridor leading to the Committee-rooms on the river front, there is no provision for the escape of vitiated air. These corridors, both in the Lords and Commons, are much crowded during the sitting of Committees. In the Committee-rooms themselves the ventilation is deficient; and so also in many other apartments. In the House, Prince's Chamber, Royal Gallery, there seems sufficient air in quantity, but badly diffused. In the corridors there is not sufficient; there is scarcely any air reaches them from the blowing machine, and there seems no means of admitting fresh air from any other source—except through the windows. The fact of the only air, to ventilate nearly nine acres of building, being admitted through one opening, is manifestly a serious objection; its accelerated rate of current—the great power necessary to overcome the "vena contracta" through the various ramifications and anastomosing branches

—complexity

—complexity of valves, slides, and thottled passages, all present practical difficulties. On the first law of motion it is clear that "momentum" communicated to air must be expended somewhere; the momentum of the air which comes through the various channels is not expended anywhere until it reaches the body of air (comparatively at rest) in the apartments. Thus, in your Lordships' House, the momentum of the in-coming air produces secondary and retrograde currents in the body of the House; which can be often traced extending to the floor. The air, as it comes along, is twice warmed; first as it enters from the fan, and secondly, by a local and special apparatus in the branches going to the several apartments. The air is moistened by high-pressure steam as it comes along. The warming apparatus occasionally overheats and decomposes the ammoniacal matters always found in the air of London; often producing empyreumatic unpleasant smell. The warming, moistening, and mechanical friction changes the electrical condition of the air—the laws of interchange are entirely broken—its freshness is destroyed as it comes along—and it arrives at its destination in a very unfit state for respiration.

In regard to the lighting of the House—the quantity is deficient in the business part of it. The burners are too far off; the heat from them is objectionable; the temperature of the House is soon affected after they are turned up; more particularly in the Galleries. In many of the contiguous chambers and passages the arrangements are more objectionable; for here, not only the heat, but all the products of combustion and burnt air are suffered to escape into the atmosphere of those apartments. The contamination from these lights finds its way, under the laws of diffusion, into the House itself. The Royal Gallery and Entrance Hall require immediate attention.

The quantity of day-light in the House and Prince's Chamber is not sufficient for business purposes.

Taking all the conditions of the House into consideration, I recommend the following alterations to be made; which, if carried out, I believe would render your Lordships' House far more comfortable and healthy.

First,—That some of the windows be made to open in the House, and Corridors; and some, more than at present, in the Libraries and Committee-rooms. That direct communications be made between the interior of the building and the open air, wherever practicable, for the interchange and admission of fresh air, and to effect a pneumatic balance with the outer atmosphere.

Secondly,—That means be taken to break down the momentum of the current of air before it enters the body of the House; so that it may be in a comparatively quiescent state in the chambers above, and pass quietly into the House.

Thirdly,—That the vitiated air be principally drawn off from the floor of the House.

Fourthly,—That four concentric lights be suspended from the roof of the House; and placed in ornamental appropriate inclosures, with ventilating tubes affixed, so that all heat and products of combustion from them be carried immediately out of the House. Two of them, suspended nearly over the candelabra at the Bar end of the House, and two at the end next the Throne. The present lights in the Galleries to be reduced in size, or kept very low when burning.

Fifthly,—That the present open gas burners in the Royal Gallery and Landings, be removed; and similarly ventilated lights, as those proposed in the House, be substituted.

Sixthly,—That in the Committee-rooms used for Public Committees, subject to be crowded, Venetian openings be made over the doorways; and the windows made to open larger areas. That in the Libraries and Select Committee-rooms, openings be made in the flues; so that their ventilation and warming be assisted by open fires. That the Corridors outside the Committee-rooms be ventilated by openings made into the extracting shaft above.

Seventhly,—To substitute diapered glass for coloured glass in the House windows. In the Prince's Chamber the windows are so small (and cannot possibly be enlarged) that diapered glass would not admit sufficient light; I therefore recommend that clear glass windows be opened out at the spring of the roof on both sides of the ventilating chamber above the ceiling; that the light from them be admitted through glass panels placed in the ceiling (where the wood ones now are), ornamented in keeping with the apartment. One or two of the windows should be made to open in this room.

GOLDSWORTHY GURNEY.

Westminster, 10 April 1854.

Appendix C.

Appendix C.

Offices for Mr. Leslie's Patents for Sanitary and
Economic Combustion of Gas; for Economy of Fuel, with Ventilation;
59, Conduit-street, London, 30 March 1854.

My Lords,

In compliance with your command, I have the honour to present to your Lordships a special report on the principal subjects in my evidence before your Lordships, and the various remedial measures I have proposed for improving the warming, lighting, and ventilation of the House of Lords.

As to the Warming.

Considering that the House in its judicial capacity sits in the early morning, that only a few Peers are required to attend, I am of opinion that the House could be best warmed by two open fire-brick grates, constructed with air channels at the sides and backs, to deliver pure warm fresh air into the House; that these two fire-brick grates would be placed on the level of the floor; that the radiation of heat from them, together with the proposed supplies of warm fresh air, would effectually warm the whole floor of the House, and also very much assist the general ventilation thereof.

In the event of the two proposed fire-places being from any cause considered objectionable, I should then propose to avail myself of the two fire-places in the Robing-room, converting them to my principle as stated, and leading the warm air from them into the House; but this would obviously be less effectual for the comfort of the Lord Chancellor and those Peers who attend on judicial business, or, in my opinion, for the general comfort of the House at the subsequent sitting.

As to the Lighting.

I strongly advise your Lordships, if you do me the honour to order me to make the experiment on my plan by the system of purifying the cannel gas to be consumed through my patent burners, not to interfere in any way with the existing arrangements.

Honoured as I have been by the unqualified approbation of the following Members of your Lordships' Committee, the Marquess Clanricarde, the Marquess of Lansdowne, the Earl De Lawarr, the Viscount Sydney, and the Viscount Torrington, who have all witnessed the effects produced by my system of lighting and ventilation of the Queen's Concert-room in Hanover-square, I should proceed to carry out the same plan in the House of Lords in the following manner.

I should obtain an independent supply through new pipes of cannel gas, which I should lead to my purifying apparatus; from thence I should cause one pipe of about 2 ½ inches, external diameter, to drop from a centre ornament of the ceiling, to supply a circle of burners 12 feet in diameter; and, as your Lordships will remember, I stated that I should require about 250 feet of gas per hour. I should divide the circle so as to have 50 lights, each burning under five cubic feet per hour. The level of this flood of light I would place about 26 feet above the floor of the House; and as there would be neither shadow above nor below the burners, the whole light generated in combustion would be diffused all over the House, penetrating every corner.

Entertaining not the slightest doubt as to the complete success of the plan I have the honour to propose, I should make all these works permanent. If, however, unfortunately, my plan should fail, there would only be the 2 ½ inch descending tube to unscrew, and every thing of your existing arrangements, mains, services, branches, and burners, would in a moment be available. But if, as I am confident, a complete success would be obtained, then there would only remain to do the removal of the 32 branches in the House.

I am satisfied that a very large economy will result from this mode of carrying out the experiment.

The Ventilation of the House.

I would immediately stop all the present artificial means of supplying air. I should convert the three divisional chambers of the ceiling of the House into recipients of the foul atmosphere of the House, whether arising from combustion or respiration. A gentle ascending current would be established and maintained by means of one of my small fire-brick grates in the discharge shaft, and which would be in immediate communication with those three foul air chambers.

If I am favoured with your Lordships' order to carry out all these remedial processes, I will have them completed for the first sitting of the House after the Easter recess.

I have, &c.
(signed) John Leslie.

To the Select Committee of the
House of Lords
on the Ventilation and Lighting of the House.

Appendix C.

Offices for Mr. Leslie's Patents, for Sanitary and Economic Combustion of Gas; for Economy of Fuel, with Ventilation; 59, Conduit-street, London, 8 May 1854.

Mr. Leslie submits the following observations on Mr. Meeson's experiments, as submitted by him, on Friday the 5th instant, to the Committee of the House of Lords on Lighting and Ventilating the House.

Mr. Meeson's arrangements appear to me erroneous throughout; he experiments on every case with 14-10ths pressure, being more than treble the amount of pressure Mr. Leslie has in operation at the Post-office.

Mr. Meeson also appears to me to be unaware of the important facts, that there are two distinct subjects in photometrical experiments to be ascertained: quantity of light, in other words, the number of particles of light evolved, and also the intensity or illuminating power of those particles. Mr. Meeson's photometrical arrangements entirely preclude the possibility of obtaining the last, which is by far the most important.

The photometer Mr. Meeson uses is an oiled disc, to which disc, at 10 inches distance, is attached a sperm candle; and they are made to slide together on a tube, upon which is marked the positions and the number of candles each position gives, when the oiled spot disappears.

The moving of the candle is one of the greatest errors in photometrical observation.

Mr. Meeson, in his paper presented in his evidence, assumes that light increases or decreases in an arithmetical ratio, and accordingly he applies the rule of three to each of his experiments.

Mr. Meeson assumes that there is a Faraday gas-burner, and records the results from it. There is no such burner.

The Albert argand burner used by Mr. Meeson is a registered gas burner by Messrs. Hulett, of Holborn, the makers of Mr. Meeson's photometer.

In the common gas experiments by Mr. Meeson, the smallest quantity of gas he used was with my burner (*vide* No. 3 Experiment), recorded by Mr. Meeson in these words: "Mr. Leslie's burner, with combustion chamber, consuming its utmost, without smoke, 3·5 cubic feet of gas per hour = 14 candles."

Although Mr. Meeson has since informed me that the combustion chamber he used was not full of light, and consequently the wrong size for that quantity of gas, notwithstanding Mr. Meeson obtained a very great result, which he does not appear to have been aware of, because, by completing his experiment with the arithmetical process, he allows only 20 candles for five cubic feet of gas per hour.

But it is to be particularly noticed in Mr. Meeson's No. 5 Experiment with the Albert argand burner, that he used 42·85 per cent. more gas than he did with my burner in No. 3 Experiment; and he only obtained, as he records, the same number, 14 candles, from five cubic feet of gas, which he had obtained from mine with 3 ½ cubic feet of gas.

Here, then, was a complete waste, on Mr. Meeson's own showing, of one-and-a-half cubic feet of gas per hour.

Mr. Meeson then appears to have altered his arrangements with the same Albert burner (*vide* No. 6 Experiment); he added nine-tenths of a cubic foot of gas; he moved the disc and the candle together about 14 ½ inches; and then records the result as being 27 candles instead of 14.

Mr. Meeson, with what he calls Mr. Faraday's burner, Experiment No. 2, used 4·75 cubic feet of gas per hour; that is, 35·72 per cent. more gas than he did with mine in No. 3 Experiment; and although he applied the rule-of-three process, he still records it inferior to mine, as 18·95 candles to 20·00 candles.

Mr. Meeson (*vide* No. 1 Experiment) applied the ventilating process to the same quantity of gas through the same burner; that is, he put an extra glass on, he increased the current of cold air, and he thereby increased the illuminating power of the same quantity of gas, and by the arithmetical process, as he records, from 18·95 candles to 22·10 candles.

Mr. Meeson (*vide* No. 7 Experiment), with the same burner, further increased the current of cold air, and, by the arithmetical process, records 24·50 candles from five feet of common coal gas.

Mr. Meeson further proceeds, in No. 8 Experiment, and better adjusts as to draft and supply of air; and, by the arithmetical process, he records 27·27 candles from five feet of common coal gas.

Recapitulation of Mr. Meeson's Arithmetical Results from Five Feet per Hour of Common Coal Gas.

		Candles.
No. 2	Experiment	18·95
„ 1	ditto	22·10
„ 7	ditto	24·50
„ 8	ditto	27·27

Mr. Meeson informed me that Mr. Faraday, the gas-fitter, of Wardour-street, or his man, was present during the whole of Mr. Meeson's experiments.

Further, Mr. Meeson, by his arithmetical process, gives the greatest result to my burner in the cannel gas experiments; but, notwithstanding, I consider the whole series of his experiments, for the reasons stated, utterly valueless.

Appendix C.

New Palace, Westminster,
19 May 1854.

Mr. MEESON's Explanation of Experiments, and Remarks on Mr. LESLIE's Observations in Appendix C.

Mr. Leslie's Statement.	*Mr. Meeson's Reply.*
1. Mr. Meeson's arrangements appear to me erroneous throughout; he experiments on every case with 14-10ths pressure, being more than treble the amount of pressure Mr. Leslie has in operation at the Post-office.	The pressure of gas on the mains of the Houses of Parliament varies from 12 to 16-10ths of an inch: the pressure during the experiment was the general average, but this pressure was modified at the burner, by means of a cock, to such an amount as to produce the best flame in each case.
2. Mr. Meeson also appears to me to be unaware of the important facts, that there are two distinct subjects in photometrical experiments to be ascertained, quantity of light, in other words, the number of particles of light evolved, and also the intensity or illuminating power of those particles: Mr. Meeson's photometrical arrangements entirely preclude the possibility of obtaining the last, which is by far the most important.	Without examining Mr. Leslie's theory of light, Mr. Meeson believes that his arrangements do measure the intensity of light, so far as intensity is available for practical purposes of lighting.
3. The photometer Mr. Meeson uses is an oiled disc, to which disc, at 10 inches distance, is attached a sperm candle, and they are made to slide together on a tube upon which is marked the positions, and the number of candles each position gives when the oiled spot disappears.	The photometer used was that of Mr. Edge, and the experiments verified by the photometer of Messrs. Church & Mann: these photometers are used by many scientific and practical persons.
4. The moving of the candle is one of the greatest errors in photometrical observation.	The moving of the disc and candle together possesses the advantage of presenting a small spot, always uniform in intensity of light to the burner to be tested, which spot must be neutralized by the intensity of the tested light, the distance at which it will be so neutralized being a measure of its value.
5. Mr. Meeson, in his paper presented in his evidence, assumes, that light increases or decreases in an arithmetical ratio, and accordingly he applies the Rule of Three to each of his experiments.	In making a comparison of the lights, it is assumed that the light increases or decreases directly as the quantity of gas consumed by the burner; this, though not strictly true where the quantities consumed are very different, is practically sufficiently so where the burners themselves and the standard of comparison do not widely differ, as was the case in these experiments; and this mode of comparison is almost invariably used by those much accustomed to these examinations. There is no determinate or known ratio of increase or decrease of light with varying quantities of gas, it being dependent on the burner, and many contingencies; and whatever the slight error may be, it is in favour of Mr. Leslie's burners in three of the experiments out of four.
6. Mr. Meeson assumes that there is a Faraday gas-burner, and records the results from it. There is no such burner.	The results recorded from Mr. Faraday's light were derived from an Argand burner, ventilated by Faraday in his patent way.
7. The Albert Argand burner used by Mr. Meeson is a registered gas-burner, by Messrs. Hulett, of Holborn, the makers of Mr. Meeson's photometer.	The Albert burner used was a registered burner by Chatwin, not supplied by Mr. Hulett.
8. In	Mr.

8. In the common gas experiments by Mr. Meeson, the smallest quantity of gas he used was with my burner (*vide* No. 3 Experiment), recorded by Mr. Meeson in these words: "Mr. Leslie's burner, with combustion chamber, consuming its utmost without smoke, 3·5 cubic feet of gas per hour = 14 candles." Although Mr. Meeson has since informed me that the combustion chamber he used was not full of light, and consequently the wrong size for that quantity of gas, notwithstanding Mr. Meeson obtained a very great result, which he does not appear to have been aware of, because by completing his experiments with the arithmetical process, he allows only 20 candles for five cubic feet of gas per hour.

Mr. Meeson's information to Mr. Leslie related to Experiment No. 9, not to Experiment No. 3, which is particularly described as "consuming its utmost without smoke;" the remarks, therefore, do not apply.

9. But it is to be particularly noticed in Mr. Meeson's No. 5 Experiment with the Albert Argand burner, that he used 42·85 per cent. more gas than he did with my burner in No. 3 Experiment, and he only obtained, as he records, the same number, 14 candles, from 5 cubic feet of gas, which he obtained from mine with 3½ cubic feet of gas. Here, then, was a complete waste, on Mr. Meeson's own showing, of 1½ cubic feet of gas per hour.

Mr. Meeson then appears to have altered his arrangements with the same Albert burner (*vide* No. 6 Experiment); he added nine-tenths of a cubic foot of gas; he moved the disc and the candle together about 14½ inches, and then records the result as being 27 candles, instead of 14.

This was an experiment for the purpose of ascertaining the loss referred to by Mr. Leslie when a burner was not consuming its full quantity of gas (it being so described in the experiment), and the result of the more complete state of things with the same burner is shown in Experiment No. 6.

10. Mr. Meeson, with what he calls Mr. Faraday's burner (Experiment No. 2), used 4·75 cubic feet of gas per hour, that is 35·72 per cent. more gas than he did with mine in No. 3 Experiment; and although he applied the Rule-of-Three process, he still records it inferior to mine, as 18·95 candles to 20·00 candles. Mr. Meeson (*vide* No. 1 Experiment) applied the ventilating process to the same quantity of gas through the same burner, that is, he put an extra glass on; he increased the current of cold air, and he thereby increased the illuminating power of the same quantity of gas, and by the arithmetical process, as he records, from 18·95 candles to 22·10 candles.

Mr. Meeson (*vide* No. 7 Experiment) with the same burner further increased the current of cold air, and by the arithmetical process, records 24·50 candles from 5 feet of common coal-gas.

Mr. Meeson further proceeds, in No. 8 Experiment, and better adjusts as to draught and supply of air, and by the arithmetical process, he records 27·27 candles from 5 feet of common coal-gas.

This was the burner used by Mr. Faraday, burning as a common Argand. The Experiments Nos. 1, 7 and 8 were the same burner, ventilated by Mr. Faraday, which ventilation consisted in putting a cover and outer glass to the lamp, and causing the products of combustion and heated air to descend between the inner and outer glasses, and be carried away by a tube. The value of this ventilation, and the subsequent adjustment of the burner, &c. (not owing entirely to the increased current of cold air), is manifest, from the Experiments Nos. 1, 7 and 8.

The experiments were intended to be entirely comparative, and the same candle, same mode of experiment and calculation was applied to all the burners. The consumption of gas should have been stated as measures, not feet, each measure equalling 1·5 cubic feet: from this the commercial value may be deduced, if desired; the comparative results are precisely as stated.

The best result in all cases, except where expressly mentioned, was endeavoured to be obtained from each burner.

Appendix C.

Sir, London, 28, Jermyn-street, 11 June 1850.

In consequence of your suggestion to the Treasury that I should examine into your method of consuming gas, and, in accordance with your letter of the 26th April, I have examined into and now report on the economical value of your several patents in use at the General Post-office.

For this purpose, I was present when your Post-office purifier was opened, and subsequently the contents were carefully examined in my laboratory. The trays through which the gas is made to pass contained acetate of lead and sulphate of copper, substances well calculated to arrest both sulphuretted hydrogen and ammonia. I found only such a small amount of sulphuretted hydrogen as to be unworthy of remark, but abundance of ammonia, both in the lead and copper trays, as follows:

The trays of acetate of lead contained - - -	7·5 per cent. of dry ammonia.
The sulphate of copper, first tray from inlet -	3·2 - - - ditto.
Second tray, copper - - - - -	0·89 - - - ditto.
The two divisions of lime - - - -	0·1 - - - ditto.

Making together 11·69 per cent. of ammoniacal gas arrested by your purifier. Now, as it is well known (and I have ascertained the fact by direct experiment) that the pressure of ammonia reduces to a great extent the illuminating power of gas, it follows that your process of purification tends to economise the use of gas as a light.

It was necessary to test by careful experiment whether your mode of burning gas increased the illuminating power at the same time that it effected a more complete combustion of the gas.

I have tested the results in every way, to ensure their accuracy, and had the experiments repeated on different nights and by various observers, so as to elicit the limit of error incident to such a class of observations; and as a mean result, I find that your burner with one of your glass combustion chambers, properly adjusted according to the specification of your patent of March 1847 for the combustion of 4½ feet of gas per hour, gave a light, when consuming that quantity of gas passing through your purifier, equal to 20⅓ candles burning 125 grains of spermaceti per hour. When gas not passed through your purifier, and consumed at the rate of four feet and seven-tenths per hour, was employed, the light was only equal to 18·83 candles.

The General Post-office argand burner, consuming the same quantity of the same gas not passing through your purifier, gave a light equal only to 11·05 of the same candles.

In order to test the accuracy of this result, I caused a different class of experiments to be made. The General Post-office argand burner was placed at 20 feet distance from, but opposite to, your burner; each was made to burn precisely the same quantity of gas, various photometers being used, by which the respective values of the two modes of consuming gas could be accurately determined. When the photometers were equally illuminated, the distance from each burner was found to be—

	ft.	*in.*
From the General Post-office argand burner, using gas not passing through your purifier - - - - - - - - - - -	8	8
From your burner, using gas passing through your purifier - - -	11	4

being an increase of light, from the same quantity of gas, in favour of your system, of 71 per cent. Your burner, when consuming the same quantity of gas, in comparison with the General Post-office bat's-wing burner, gave more than double the light.

I used with your burner in all cases gas which had passed through your purifier, and with the General Post-office burners gas which had not passed through your purifier, in order to obtain an approximation to the condition of the General Post-office before and after the introduction of your patents to that establishment. The results of this examination you will at once perceive are very favourable to the economy of light introduced by you at the Post-office.

I have, &c.
(signed) Lyon Playfair.

24, Regent-street, London,
My Lord and Gentlemen, 18 October 1848.

In pursuance of your instructions of the 11th instant, directing me to examine into the claims of Mr. Leslie for remuneration for the use of his patent gas-burner and purifier at the General Post-office, I beg to say that I consider it my duty to investigate the cause of the saving of gas in that establishment, and determine whether that saving was effected by the use of Leslie's patent burner, or by diminishing the supply of gas to the lamps generally.

I have invariably found that all gas-burners having view, in their arrangement, to complete combustion, take considerably more gas to produce the same quantity of light than the common argand, where the combustion is not so perfect.

The

The whiteness of the light produced by Leslie's gas-burner arises from an excess of atmospheric air admitted through the flame. Now, neither more nor less than the exact quantity of air required for the formation of carbonic acid and water can be admitted through the flame without being injurious. If too little be admitted, smoke is the result; if too much, the quantity of nitrogen accompanying this excess has a tendency to extinguish it; and also that the quantity of atmospheric air passing through it unchanged tends to reduce the temperature below that necessary for ignition, and therefore to diminish the quantity of light.

If the prevention of smoke were the chief consideration at the General Post-office, the use of Leslie's burner would be advantageous; but where light, with the economical consumption of gas, is desirable, it would not be obtained by its use.

From carefully conducted experiment, I find that the common argand gas-burner, formerly in use at the General Post-office, consuming six cubical feet per hour, gives a light equal to 17·42 sperm candles, consuming 2 ¾ grains per minute, and that Leslie's burner, consuming the same quantity of the same gas, gives a light equal to only 11·75 of the same candles, which, compared to the first-mentioned gas-burner, is in the ratio of 1 to 1·482.

I am therefore of opinion that any saving in the quantity of gas used at the General Post-office cannot be attributed to the use of Leslie's patent burner.

With respect to Leslie's patent purifier as applied in the General Post-office, and his claim for remuneration for the use of it, two things I think ought to be taken into consideration. First, does the said purifier effect a further purification of the gas supplied by the gas company to the General Post-office; and, secondly, whether the gas so supplied could not be rendered perfectly pure at the company's works, without any extra charge being made.

As to the first, then: I analysed the gas before it entered Leslie's purifier, and found it perfectly free from sulphuretted hydrogen, but containing a little ammoniacal gas. I then tested it after it had passed the patent purifier, and the result of my analysis was precisely the same.

The purifying process employed by Mr. Leslie would, if kept in proper order, be found efficacious, it having been long in use by various persons with success; but the apparatus, as found by me, was not in proper order, such order as it should be always kept in if any charge is to be made for its use.

As to the second consideration, I am advised that the gas company will most willingly undertake to render the gas supplied by them to the General Post-office as pure as it can be made, by any additional process on the establishment, by the erection of additional apparatus if necessary, and without any extra charge. It is the wish of the gas company to supply perfectly pure gas; and upon any representation from the General Post-office, stating the gas not to be pure, they would immediately take steps to make it so.

If after what I have here submitted, it remains the intention to remunerate Mr. Leslie, I would beg to recommend the following method.

That Mr. Leslie be paid a certain price for each burner supplied by him. The remuneration sought by all other patentees of gas burners is simply the selling of them, and I confess I am at a loss to conceive why Mr. Leslie should seek for more.

I consider any remuneration based upon any supposed saving of gas very objectionable, inasmuch as by stinting the supply, an apparent saving may be shown which the burners have nothing to do with.

And for the use of his purifier, I should advise that 3 *d.* for each thousand cubical feet that has passed through it since its erection be paid to him, and that the further use of his purifier be discontinued.

I have, &c.
(signed) Samuel Clegg.

Commissioners of Woods, &c.

Appendix D.

Appendix D.

Copy of a Letter from Goldsworthy Gurney, Esq., to the Hon. Francis Stonor.

Sir, Westminster, 17 June 1854.

I have received your letter of 12th instant, stating that you had been directed by the Committee on the Ventilation and Lighting of the House to request me to draw up a Report, describing my plan for ventilation of the House, either with pendant lights or the proposed plan of lighting from the ceiling, in order that the same might be submitted to the Government.

The plan of ventilation for the House of Peers which I recommend is the same as that now in operation in the House of Commons. I find, from inspection of the building, that there is nothing to prevent its being fairly carried out in the House of Peers.

First, I recommend that all communication with the blowing engine now in the vaults be cut off, and a more free and direct passage made for the supply of fresh air to the House. Secondly, that openings be made into the chamber below the perforated floor of the House, and from thence through the openings already made into the Peers' and Victoria Courts, on either side. Openings should also be made for the admittance of fresh air into the chambers above the ceiling from the outside. The sectional areas of these openings should be sufficiently large to maintain a self-acting and perfect pneumatic balance between the open air and the House, under every possible condition either of change in the atmosphere outside, or of the varying amount of vitiated air passing out from within. This balance is most essential, and must not be disturbed by any interference. It will be highly desirable, therefore, that the blowing engine now in use below the House should be cut off also from communicating with the lobby and corridors outside the House; otherwise, when the doors are opened, a disturbance will extend into the House itself.

I recommend that all vitiated air from the Reporters' and Strangers' Gallery should be withdrawn immediately upwards—there is no means of drawing it downwards, as the gallery is constructed, without first passing over the rails into the House, which would be very objectionable: for this purpose a shaft above the ceiling may be used, and made effectual by increasing its extracting power.

For the downward portion of ventilation in the House of Commons, I have already made the Clock Tower an upcast shaft. It works well. I find, on examination in the vaults below, that an air-course may be made to connect this upcast with the House of Peers; I, therefore, recommend that this same upcast be used for both Houses.

The warming and tempering of the incoming air is important; and I strongly recommend that the present apparatus for this purpose be discontinued, for reasons given in my Evidence before the Committee; and that the more simple and manageable arrangement now in operation under the House of Commons be substituted.

The regulated hygrometric break of balance in air artificially warmed is of greater importance to health and freshness than is generally supposed; I advise the same apparatus to be used for this purpose as is now used in the House of Commons.

This plan of ventilation I advise whether pendant lights are used in the House, or lights placed in the ceiling above glass pallas.

I carefully examined the building before making this report of the above arrangement, in order to avoid any practical objection that might present itself, and may observe, that there are none existing below the House, and that in no way need the interior of the House be touched.

This arrangement may be extended at a little additional expense to the Prince's Chamber and Royal Gallery, which would be desirable.

For the purpose of freshening the House before sittings, I recommend that four windows be made to open on each side, and at other times when desirable.

Any detail, if desired, of the above arrangement I shall be happy to give.

I have, &c.
(signed) Goldsworthy Gurney.

Brought from the Lords, 18 *July* 1854.

REPORT

FROM THE

SELECT COMMITTEE OF THE HOUSE OF LORDS,

APPOINTED TO INQUIRE INTO

The Possibility of Improving the Ventilation and the Lighting of the House, and the contiguous Chambers, Galleries and Passages;

AND TO REPORT THEREON TO THE HOUSE;

TOGETHER WITH THE

MINUTES OF EVIDENCE,

AND AN APPENDIX.

Session 1854.

Ordered, by The House of Commons, *to be Printed*, 19 *July* 1854.

[*Price* 1*s.* 4*d.*]

384.

Under 20 *oz.*

BIBL. LONDIN. UNIV.

REPORT

FROM THE

SELECT COMMITTEE

ON

STANDING ORDERS REVISION.

1854.

Ordered, by The House of Commons, *to be Printed,*
14 *July* 1854.

Lunæ, 19° *die Junii*, 1854.

Ordered, That a Select Committee be appointed "to Revise the Standing Orders."

That the said Committee do consist of—

Mr. Wilson Patten.	Mr. Strutt.
Mr. Cardwell.	Sir Robert Ferguson.
Mr. Henley.	Mr. Brotherton.
Mr. Bouverie.	Lord Stanley.
Mr. Sotheron.	Mr. Edmund Denison.
Mr. Evelyn Denison.	Mr. Tatton Egerton.
Sir William Heathcote.	Mr. Bonham Carter.
Mr. Greene.	

Ordered, That the said Committee have power to send for Persons, Papers and Records.

Ordered, That Five be the Quorum of the said Committee.

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PROCEEDINGS OF THE COMMITTEE - - - - p. iv
STANDING ORDERS - - - - - - - - - p. 1

REPORT.

THE SELECT COMMITTEE appointed to Revise the STANDING ORDERS;—

HAVE considered the matters to them referred, and have agreed to report the STANDING ORDERS, as revised by them, to The House.

14 *July* 1854.

PROCEEDINGS OF THE COMMITTEE.

Martis, 5° *die Julii*, 1854.

PRESENT:

Mr. Wilson Patten.	Mr. Sotheron.
Mr. Henley.	Mr. Tatton Egerton.
Mr. Strutt.	Lord Stanley.
Mr. Cardwell.	Mr. Bonham Carter.
Mr. Greene.	Mr. Evelyn Denison.

Mr. WILSON PATTEN was called to the Chair.

Committee deliberated.

Proposed Standing Orders read and considered, and amendments made.

[Adjourned to Friday, at Two o'clock.

Veneris, 7° *die Julii*, 1854.

Mr. WILSON PATTEN in the Chair.

Mr. Wilson Patten.	Sir R. Ferguson.
Mr. E. Denison.	Mr. Strutt.
Mr. Henley.	Mr. Brotherton.
Mr. Sotheron.	Mr. Bonham Carter.
Mr. T. Egerton.	Mr. Bouverie.
Sir Wm. Heathcote.	

Proposed Standing Orders further considered, amended, and agreed to.

[Adjourned to Friday, at Twelve o'clock.

Veneris, 14° *die Julii*, 1854.

Mr. WILSON PATTEN in the Chair.

Mr. Wilson Patten.	Sir R. Ferguson.
Mr. E. Denison.	Mr. Bonham Carter.
Mr. Greene.	Mr. Bouverie.
Mr. Henley.	Mr. Brotherton.
Mr. Strutt.	Mr. T. Egerton.

Proposed Standing Orders considered, amended, and agreed to.

Question,—"That the Standing Orders, as amended, be reported to The House"—put, and agreed to.

Ordered to report.

STANDING ORDERS.

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I.

APPOINTMENT OF COMMITTEES AND EXAMINERS OF PETITIONS FOR PRIVATE BILLS.

3.

This Order has been amended by omitting the word "*Four*" in line 4, and inserting the word "*Five*."

4.

This Order has been amended by omitting the words "to consist of the Chairman of the Committee of Ways and Means, who shall be *ex-officio* Chairman thereof; and of not less than Twenty-four nor more than Forty other Members, who," and inserting the word "which"

5.

This Order has been amended by adding the words "and shall appoint the Chairman of such Committee" after the word "room" at the end of the Order.

6.

This Order has been amended by leaving out "shall divide themselves into Sub-Committees, of not less than Three nor more than Five Members each, and," and inserting after "appoint" the words "from among themselves;" also, by leaving out the word "Sub," and inserting after "Committee" the words "on a Railway or Canal Bill, or on a Group of such Bills;" and substituting "Chairman" for "Members" before the words "so appointed."

Appointment of Committees and Examiners of Petitions for Private Bills.

STANDING ORDERS.

I.

APPOINTMENT OF COMMITTEES AND EXAMINERS OF PETITIONS FOR PRIVATE BILLS.

1.

Examiners of Petitions.

THERE shall be one or more Officers of this House, to be called "THE EXAMINERS OF PETITIONS FOR PRIVATE BILLS," who shall be appointed by Mr. Speaker.

2.

Committee on Standing Orders.

There shall be a Committee, to be designated "THE SELECT COMMITTEE ON STANDING ORDERS," to consist of *Eleven* Members, who shall be nominated at the commencement of every Session, of whom *Five* shall be a Quorum.

3.

Committee of Selection.

There shall be a Committee, to be designated "THE COMMITTEE OF SELECTION," to consist of the Chairman of the Select Committee on Standing Orders, who shall be *ex-officio* Chairman thereof, and *Five* other Members, who shall be nominated at the commencement of every Session, of which Committee *Three* shall be a Quorum.

4.

General Committee on Railway and Canal Bills.

There shall be a Committee, to be designated "The General Committee on Railway and Canal Bills," which shall be nominated at the commencement of every Session by the Committee of Selection; and *Five* shall be the Quorum of such Committee.

5.

Committee of Selection may discharge Members and add others.

The Committee of Selection may, from time to time, discharge Members from further attendance on such General Committee, and add other Members in their room, and shall appoint the Chairman of such Committee.

6.

General Committee to appoint Chairman.

The General Committee on Railway and Canal Bills shall appoint from among themselves the Chairman of each Committee on a Railway or Canal Bill, or on a Group of such Bills, and may change the Chairman so appointed from time to time.

Appointment of Committees and Examiners of Petitions for Private Bills.

9.

Committees on Railway and Canal Bills.

The Committee on every Railway and Canal Bill, or Group of Railway and Canal Bills, shall be composed of Five Members not locally or otherwise interested in the Bill or Bills in progress; the Chairman to be appointed by the General Committee on Railway and Canal Bills, and Four other Members by the Committee of Selection.

10.

Committees on Opposed Private Bills.

The Committee on every opposed Private Bill (not being a Railway, Canal or Divorce Bill), or Group of Bills, shall be composed of a Chairman and Four Members not locally or otherwise interested in the Bill or Bills in progress, to be appointed by the Committee of Selection, with the addition, if such Bill or Group shall specially relate to any one County, Division of a County, or Parliamentary Borough, of the Member or Members representing the same, or if such Bill or Group shall relate to more than one County, Division of a County, or Parliamentary Borough, of so many of the Members representing the same as the Committee of Selection shall appoint.

11.

Committees on Unopposed Private Bills.

The Committee on every unopposed Private Bill (not being a Railway, Canal or Divorce Bill), shall, if the same shall have originated in this House, be composed of the Chairman of the Committee of Ways and Means, who shall be *ex-officio* Chairman of every such Committee, together with one of the Members ordered to prepare and bring in the Bill, and one other Member not locally or otherwise interested therein, such Members to be appointed by the Committee of Selection, and shall, if such Bill shall have been brought from the House of Lords, be composed of the Chairman, as aforesaid, and Two other Members, to be appointed by the Committee of Selection, of whom one at least shall not be locally or otherwise interested in the Bill; and the Chairman and one other Member of such Committee shall be the quorum thereof.

12.

Committee on Divorce Bills.

There shall be a Committee, to be designated "THE SELECT COMMITTEE ON DIVORCE BILLS," to consist of *Nine* Members, who shall be nominated at the commencement of every Session, of whom *Three* shall be a Quorum.

13.

Members not to be added to Committees, except by special Order.

After any Committee on a Private Bill shall have been formed, no Members shall be added thereto, unless by special Order of The House.

7 and 8.

These Orders have been omitted.

9.

This Order has been amended by leaving out the word "Sub" in line 1, and inserting after "composed of" in line 2, the word "Five;" also, by inserting after "progress," at the end of the Order, the words "the Chairman to be appointed by the General Committee on Railway and Canal Bills, and Four other Members by the Committee of Selection."

2.

II.

THE TWO CLASSES OF PRIVATE BILLS.

2d Class.—The words "Drainage—making and maintaining any Cut for Drainage, being a new Work, where it is not provided in the Bill that the same shall not be more than Eleven feet width at the bottom," have been added in conformity with the Standing Orders of the Lords.

The Two Classes of Private Bills.

II.

THE TWO CLASSES OF PRIVATE BILLS.

14.

Private Bills divided into Two Classes.

For the purposes of the Standing Orders of this House, all Private Bills to which the Standing Orders are applicable shall be divided into the Two following Classes, according to the subjects to which they respectively relate:—

1st Class.

1st Class.—Burial Ground, Making, Maintaining or Altering.
Charters and Corporations, enlarging or altering Powers of.
Church or Chapel, Building, Enlarging, Repairing or Maintaining.
City or Town, Paving, Lighting, Watching, Cleansing or Improving.
Company, Incorporating or giving Powers to.
County Rate.
County or Shire Hall, Court House.
Crown, Church, or Corporation Property, or Property held in Trust for Public or Charitable Purposes.

Ferry.
Fishery, Making, Maintaining or Improving.
Gaol or House of Correction.
Land, Inclosing, Draining or Improving.
Letters Patent, Confirming, Prolonging or Transferring the Term of.
Local Court, Constituting.
Market or Market-place, Erecting, Improving, Repairing, Maintaining, or Regulating.
Police.
Poor, Maintaining or Employing.
Poor Rate.
Powers to sue and be sued, Conferring.
Stipendiary Magistrate, or any Public Officer, Payment of.

And

Continuing or amending an Act passed for any of the purposes included in this or the Second Class, where no further work than such as was authorized by a former Act is proposed to be made.

2d Class.—Making, Maintaining, Varying, Extending or Enlarging any

Aqueduct.
Archway.
Bridge.
Canal.
Cut.
Dock.
Drainage—making and maintaining any Cut for Drainage, being a new Work, where it is not provided in the Bill that the same shall not be more than Eleven feet width at the bottom.
Embankment for reclaiming Land from the Sea or any Tidal River.
Ferry, where any work is to be executed.
Harbour.
Navigation.
Pier.
Port.
Railway.
Reservoir.
Sewer.
Street.
Tunnel.
Turnpike or other Public Carriage Road.
Waterwork.

3.

III.

STANDING ORDERS, COMPLIANCE WITH WHICH IS TO BE PROVED BEFORE THE EXAMINERS OF PETITIONS FOR PRIVATE BILLS.

Standing Orders, compliance with which is to be proved before Examiners.

III.

STANDING ORDERS, COMPLIANCE WITH WHICH IS TO BE PROVED BEFORE THE EXAMINERS OF PETITIONS FOR PRIVATE BILLS; viz.

1. *Notices by Advertisement* - - - - - - - - - *p.* 13

2. *Notices and Applications to Owners, Lessees and Occupiers of Lands and Houses* - - - - - - - - - - - *p.* 15

3. *Documents required to be deposited, and the Times and Places of Deposit* - - - - - - - - - - - *p.* 16

4. *Form in which Plans, Books of Reference, Sections and Cross Sections shall be prepared* - - - - - - - - - - *p.* 20

5. *Estimates and Subscription Contracts, or Declarations in lieu of Subscription Contracts, and Deposit of Money in certain cases* - - *p.* 23

15.

Compliance with the following Standing Orders shall be proved before one of the Examiners of Petitions for Private Bills; —*viz.*

1. *Notices by Advertisement.*

16.

Notices to state objects of application, when Bills will be deposited in Private Bill Office, and intention to seek for powers to purchase Lands, or to amalgamate, &c. or to levy or alter Tolls, to be stated.

In all cases where application is intended to be made for leave to bring in a Bill relating to any of the subjects included in either of the Two Classes of Private Bills, Notices shall be given stating the objects of such intended application, and the time at which copies of the Bill will be deposited in the Private Bill Office; and if it be intended to apply for powers for the compulsory purchase of Lands or Houses, or for extending the time granted by any former Act for that purpose, or to amalgamate with any other Company, or to sell or lease the Undertaking, or to purchase or take on lease the Undertaking of any other Company, or to amend or repeal any former Act or Acts, or to levy any Tolls, Rates or Duties, or to alter any existing Tolls, Rates or Duties, or to confer, vary or extinguish any exemptions from payment of Tolls, Rates or Duties, or to confer, vary or extinguish any other rights or privileges, the Notices shall specify such intention; and the whole of the Notice relating to the same Bill shall be included in the same Advertisement, which shall be headed by a short title, descriptive of the Undertaking or Bill.

17.

In Second Class Bills, Notices to contain Names of Parishes, &c.

In cases of Bills included in the Second Class, such Notices shall also contain the Names of the Parishes, Townships, Townlands and extra-parochial places from, in, through or into which the Work is intended to be made, maintained, varied, extended or enlarged, and shall state the time and place of deposit of the Plans, Sections, Books of Reference and Copies of the Gazette Notice respectively, with the Clerks of the Peace, Sheriff Clerks, Parish Clerks, Schoolmasters, Session Clerks, Town Clerks and Clerks of Unions, as the case may be. (*See* Nos. 29, 35 & 36.)

Standing Orders, compliance ith which is to be w proved before Examiners.

17 *a.*

In cases of Bills respecting any Burial Ground, Cemetery or Gas Works, the Notices shall set forth and specify the limits within which such Burial Ground, Cemetery or Gas Works are intended to be erected or made.

Notices to specify limits of Burial Ground or Gas Works.

18.

Cuts, Canals, Navigations, &c.

In all cases where it is proposed to divert into any intended Cut, Canal, Reservoir, Aqueduct or Navigation, or into any intended variation, extension or enlargement thereof respectively, any Water from any existing Cut, Canal, Reservoir, Aqueduct or Navigation, whether directly or derivatively, and whether under any agreement with the Proprietors thereof or otherwise, the Notices shall contain the name of every such existing Cut, Canal, Reservoir, Aqueduct or Navigation, the Waters supplying which will either directly or derivatively flow or proceed into any such intended Cut, Canal, Reservoir, Aqueduct or Navigation, or into any intended variation, extension or enlargement thereof.

When it is intended to divert Water from an existing Cut, &c.

Letters Patent.

19.

In cases of Bills for confirming or prolonging the terms of Letters Patent, each Notice shall have prefixed to it in Capital Letters the name by which the Invention is usually distinguished, and shall contain a distinct description of the Invention for which such Letters Patent have been obtained, and also an account of the Term of their Duration.

Name of Invention to be prefixed in Capitals to Notice.

20.

Publication of Notices in Gazettes and Newspapers.

In the months of *October* and *November*, or either of them, immediately preceding the Application for a Bill, such Notices shall be published *once* in the *London*, *Edinburgh* or *Dublin Gazette*, as the case may be, and in Three successive Weeks in some one and the same Newspaper of the County in which the City, County of a City, Town, County of a Town, or Lands to which such Bill relates shall be situate; or if there be no Newspaper published therein, then in the Newspaper of some County adjoining or near thereto; and if such Bill relate specially to any particular City, County of a City, Town or County of a Town, in which any Newspaper is published, such Notices shall be published in Three successive Weeks, in one and the same Newspaper published therein; or if such Bill do not relate to any particular City, County of a City, Town, County of a Town or Lands, such Notices shall be published once in the *London*, *Edinburgh* or *Dublin Gazette* only, as the case may be; and if such Bill relate to Lands situate in more than one County, such Notices shall be inserted once in each of Three successive Weeks, in some Newspaper or Newspapers which shall be published in *London* at least Six Days in the Week, or in *Edinburgh* or *Dublin* at least Two Days in the Week, as the case may be, and in a Newspaper of the County in which the principal Office of the Company or Companies or other parties who are the Promoters of any such Bill, shall be situate, and in a Newspaper of every County in which any new Works are proposed to be constructed, or in which any lands are situate in respect of which any new or further powers for the completion of Works already authorized are intended to be applied for.

17 *a.*

This Order has been adopted in conformity with the Standing Orders of the Lords; with the addition of the words "or Gas Works."

Standing Orders, compliance with which is to be proved before Examiners.

2. *Notices and Applications to Owners, Lessees and Occupiers of Lands and Houses.*

21.

Application to Owners, &c. on or before 15th December.

On or before the 15th day of *December* immediately preceding the application for a Bill by which any Lands or Houses are intended to be taken, or an extension of the time granted by any former Act for that purpose is sought, application in writing shall be made to the Owners or reputed Owners, Lessees or reputed Lessees, and Occupiers of all lands and houses so intended to be taken, or which may be taken as being within the limits of deviation defined upon the Plan; and in cases of Bills included in the second class, such application shall be, as nearly as may be, in the form set forth in the Appendix marked (A.)

22.

How Application to be made.

Such application shall be made by delivering the same personally to every such party, or by leaving the same at his usual place of abode, or, in his absence from the United Kingdom, with his agent, on or before the 15th day of *December*, or by forwarding the same by post in a registered letter, addressed with a sufficient direction to his usual place of abode, and posted on or before the 12th day of *December*, at the chief Post Office in *London*, *Manchester*, *Liverpool*, *Birmingham*, *Leeds*, *Newcastle-upon-Tyne*, *Norwich*, *Lincoln*, *Shrewsbury*, *Bristol*, *Exeter*, *Edinburgh*, *Glasgow*, *Aberdeen*, *Inverness*, *Dublin*, *Belfast*, *Cork* or *Athlone*, at such hours and according to such regulations as the Postmaster General shall from time to time appoint, for the posting and registration of such letters.

23.

Written acknowledgment of Party applied to, and, in case of Application or Notice by post, Post Office Receipt, sufficient evidence.

In all cases the written acknowledgment of the party applied to shall, in the absence of other proof, be sufficient evidence of an application having been made, or notice given; and in case of an application or notice having been forwarded by post, in a registered letter, the production of the Post Office receipt for such letter, duly stamped, in such form as the Postmaster General shall have appointed, shall be sufficient evidence of the due delivery of such letter; Provided it shall appear that the same was properly and sufficiently directed, and that the same was not returned by the Post Office as undelivered.

24.

Lists of Owners, &c. assenting, dissenting and neuter.

Separate Lists shall be made of the Names of such Owners, Lessees and Occupiers, distinguishing those who have assented, dissented or are neuter in respect to such application, or who have returned no answer thereto; and where no written acknowledgment has been returned to an application forwarded by post, or where such application has been returned as undelivered at any time before the making up of such lists, the direction of the letter

Standing Orders, compliance with which is to be proved before Examiners.

in which the same was so forwarded shall be inserted therein. *See* Order 39, directing the deposit of the said Lists in the Private Bill Office.)

Crown, &c. Property.

25.

Notice to Owners, &c.

Before the deposit of a Petition for leave to bring in a Bill relating to Crown, Church or Corporation Property, or Property held in Trust for Public or Charitable Purposes, or before the First Reading of any such Bill brought from the House of Lords, Notice in writing of such Application to Parliament shall be given to the Owners or reputed Owners of such Property, and to the Lessees or reputed Lessees of such Property, holding Leases granted for a life or lives, or for any term of Twenty-one Years or upwards.

Burial Grounds and Gas Works.

26.

Notice to Owners and Occupiers of Houses.

On or before the *Fifteenth* day of *December* immediately preceding the Application for any Bill for making a Burial Ground or Cemetery, or the erection of Works for the manufacture of Gas, Notice shall be served upon the Owner and Occupier of every Dwelling House situated within 300 Yards of the limits within which the proposed Burial Ground, Cemetery or Gas Works are intended to be erected or made.

Relinquishment of Works.

27.

Notice to Owners, &c., when the Bill is to abridge any Public Work.

Previously to the deposit of a Petition for leave to bring in a Bill whereby any part of a Work authorized by any former Act is intended to be relinquished, Notices in writing of such Bill shall be served upon the Owners or reputed Owners, Lessees or reputed Lessees, and Occupiers of the Lands in which the part of the said Work intended to be thereby relinquished is situate; and such Notices shall be served, and the service thereof proved, in the same manner as Applications under Standing Orders, Nos. 22 and 23.

28.

Time for serving Notices and Applications.

No Notice served or Application made on a Sunday or Christmas Day, or before Eight o'clock in the forenoon, or after Eight o'clock in the afternoon of any day, shall be deemed valid, except in the case of delivery of letters by post.

3. *Documents required to be deposited, and the Times and Places of Deposit.*

Deposits on or before the 30th November.

29.

Plans and Books of Reference, and Sections, with Clerk of the Peace.

In cases of Bills of the Second Class, a Plan and also a Duplicate thereof, together with a Book of Reference thereto, and a Section and also a Duplicate thereof, as hereinafter described, shall be deposited for public inspection at the office of the Clerk of the Peace for every County, Riding or Division in *England* or *Ireland*, or in the Office of the Principal Sheriff Clerk of every County in *Scotland*, and where any county in *Scotland* is divided into districts or divisions, then in the office of the Principal

26.

This Order has been amended by inserting the words "or Cemetery" in line 3; by leaving out the words "Boundary of" in line 5, and inserting "limits within which" in lines 5 and 6; inserting, in line 6, the word "Cemetery," and adding, in line 7, the words "are intended to be erected or made."

27.

This Order has been amended by leaving out the words "given to" in line 4, and inserting "served upon;" and also, by adding at the end of the Order the words "and such Notices shall be served, and the service thereof proved, in the same manner as Applications under Standing Orders, Nos. 22 and 23."

Standing Orders, compliance with which is to be proved before Examiners.

35.

Parish Plan, Section and Book of Reference, with Parish Clerk, &c.

On or before the 30th day of *November*, a copy of so much of the said Plans and Sections as relates to each Parish in or through which the Work is intended to be made, maintained, varied, extended or enlarged, (*see* Fig. 5.), together with a copy of so much of the Book of Reference as relates to such Parish, shall be deposited with the Parish Clerk of each such Parish in *England*, or, in the case of any Extra-parochial Place, with the Parish Clerk of some Parish immediately adjoining thereto, with the Schoolmaster of each such Parish in *Scotland*, or if there be no Schoolmaster of any such Parish, then with the Session Clerk, or in Royal Burghs with the Town Clerk, and with the Clerk of the Union within which such Parish is included in *Ireland*. (*See* Appendix, Act 1 Vict. c. 83.)

36.

Gazette Notice to be deposited with Plans, &c. with Clerks of Peace, Parish Clerks, &c.

Wherever any Plans, Sections and Books of Reference, or parts thereof, are required to be deposited, a Copy of the Notice published in the *Gazette* of the intended application to Parliament shall be deposited therewith.

Deposits on or before the 31*st December.*

37.

Petition for Bill, &c., to be deposited in Private Bill Office.

Every Petition for a Private Bill, headed by a short Title descriptive of the Undertaking or Bill, corresponding with that at the head of the Advertisement, with a Declaration, signed by the Agent, and a printed copy of the Bill annexed, shall be deposited in the Private Bill Office on or before the 31st day of December; and such Petition, Bill and Declaration shall be open to the inspection of all parties; and printed copies of the Bill shall also be delivered therewith for the use of any Member of The House or Agent who may apply for the same.

38.

Declaration of Agent as to Class of Bill, and Powers thereof, to be annexed to Petition.

Such Declaration shall state to which of the two Classes of Bills such Bill in the judgment of the Agent belongs; and if the proposed Bill shall give power to effect any of the following objects; that is to say:—

Power to take any lands or houses compulsorily, or to extend the time granted by any former Act for that purpose:

Power to levy tolls, rates or duties, or to alter any existing tolls, rates or duties; or to confer, vary or extinguish any exemption from payment of tolls, rates or duties, or to confer, vary or extinguish any other right or privilege:

Power to amalgamate with any other Company, or to sell or lease their Undertaking, or to purchase or take on lease the Undertaking of any other Company:

Power to interfere with any Crown, Church or Corporation property, or property held in trust for public or charitable purposes:

Power

37.

This Order has been amended by leaving out the word "that" before "such Petition," and inserting "shall" after "Declaration" in line 6; also, by leaving out the words "also that" before "printed copies" in line 7, and inserting "shall also" before "be delivered" in line 8.

Standing Orders, compliance with which is to be proved before Examiners.

Power to relinquish any part of a work authorized by a former Act:

Power to divert into any intended cut, canal, reservoir, aqueduct or navigation, or into any intended variation, extension or enlargement thereof respectively, any water from any existing cut, canal, reservoir, aqueduct or navigation, whether directly or derivatively, and whether under any agreement with the proprietors thereof, or otherwise:

Power to make, vary, extend or enlarge any cut, canal, reservoir, aqueduct or navigation:

Power to make, vary, extend or enlarge any Railway:

The said Declaration shall state which of such powers are given by the Bill, and shall indicate in which clauses of the Bill (referring to them by their number) such powers are given, and shall further state that the Bill does not give power to effect any of the objects enumerated in this Order, other than those stated in the Declaration.

If the proposed Bill shall not give power to effect any of the objects enumerated in the preceding Order, the said Declaration shall state that the Bill does not give power to effect any of such objects.

The said Declaration shall also state that the Bill does not give any powers, other than those included in the Notices for the Bill.

39.

Other Documents required to be deposited in Private Bill Office.

On or before the 31st day of December there shall be also deposited in the Private Bill Office, all Estimates, Copies of Subscription Contracts and Declarations, and Lists of Owners, Lessees and Occupiers, which are required by the Standing Orders of the House.

40.

Documents to be deposited in Private Bill Office in regard to Joint Stock Companies Bills.

As respects all Bills for the incorporation of Joint Stock Companies, or proposed Companies for carrying on any Trade or Business, or for conferring upon such Companies the power of suing and being sued, (such Bills being Bills of the First Class), there shall be deposited in the Private Bill Office, together with the Petition for the Bill, a copy of the Deed or Agreement of Partnership (if any) under which the Company or proposed Company is acting, or of the Subscription Contract (if any), and in all cases a declaration in writing stating the following matters:—

1st.—The present and proposed amount of the Capital of the Company.

2d.—The number of Shares, and the amount of each Share.

3d.—The number of Shares subscribed for.

4th.—The amount of Subscriptions paid up.

5th.—The names, residences and descriptions of the Shareholders or Subscribers (so far as the same can be made out), and of the actual or provisional Directors, Treasurers, Secretaries or other officer, if any.

Standing Orders, compliance with which is to be proved before Examiners.

And such documents shall be verified by the signature of some authorized officer of the Company or proposed Company (if any), and by some responsible party promoting the Bill.

41.

Copies of Estimate, Subscription Contract, or of Declaration, &c., to be printed, and delivered in Vote Office and Private Bill Office.

Previously to the deposit of a Petition for a Bill, copies of the Estimate of Expense of the Undertaking under such Bill, and of the Subscription Contract, if any, with the Names of the Subscribers arranged in alphabetical order, and the amount of the Deposit respectively paid up by each such Subscriber, and the total amount of such Subscriptions, and of the Sums so paid up; or where a Declaration alone, or Declaration and Estimate of the probable amount of Rates and Duties, are substituted for a Subscription Contract, copies of such Declaration, or of such Declaration and Estimate, shall be printed at the expense of the Promoters of the Bill, and delivered at the Vote Office for the use of the Members of The House, and at the Private Bill Office for the use of any Agent who may apply for the same.

42.

Copy of Railway, &c. Bills to be deposited at Board of Trade, and of Navigation, &c. Bills with Admiralty, &c., and of Turnpike Bills with the Secretary of State.

On or before the 31st day of *December*, a printed Copy of every Railway and Canal Bill, and of every Bill for incorporating or giving powers to any Company, shall be deposited in the Office of the Board of Trade, a printed copy of every Bill relating to any Dock, Harbour, Navigation, Pier or Port shall be deposited in the office of the Board of Admiralty and in the Office of the Board of Trade, and a printed copy of every Bill relating to Turnpike Roads at the office of the Secretary of State for the Home Department.

43.

Deposit not valid on Sunday, &c.

No Deposit shall be deemed valid if made on a Sunday or Christmas Day, or before Eight o'clock in the forenoon, or after Eight o'clock in the afternoon of any day.

4. *Form in which Plans, Books of Reference, Sections and Cross Sections shall be prepared.*

44.

Plans.

Description of Plans.

The Plan required to be deposited in the case of all Bills of the Second Class shall be drawn to a scale of not less than *Four* inches to a Mile, and shall describe the line or situation of the whole of the Work (no alternative line or Work being in any case permitted), and the lands in or through which it is to be made, maintained, varied, extended or enlarged, or through which every communication to or from the Work shall be made; and where it is the intention of the Parties to apply for powers to make any lateral deviation from the line of the proposed Work, the limits of such deviation shall be defined upon the Plan, and all Lands included within such limits shall be marked thereon; and unless the whole of such Plan shall be upon a scale of not less than a *quarter* of an *inch* to every 100 feet, an enlarged Plan shall be added of any Building, Yard, Court-Yard or Land within the curtilage of any Building, or of any Ground cultivated

Lands within Deviation to be on Plan.

Buildings, &c. on enlarged Scale.

vated as a Garden, either in the line of the proposed work or included within the limits of the said deviation, upon a scale of not less than a *quarter* of an *inch* to every 100 feet. (*See* Fig. 3.)

Standing Orders, compliance with which is to be proved before Examiners.

45.

In all cases where it is proposed to make, vary, extend or enlarge any Cut, Canal, Reservoir, Aqueduct or Navigation, the Plan shall describe the Brooks and Streams to be directly diverted into such intended Cut, Canal, Reservoir, Aqueduct or Navigation, or into any variation, extension or enlargement thereof respectively, for supplying the same with Water.

Plan to describe Brooks, &c. to be diverted.

46.

In all cases where it is proposed to make, vary, extend, or enlarge any Railway, the Plan shall exhibit thereon the distances in miles and furlongs, from one of the termini; and a memorandum of the radius of every curve not exceeding One Mile in length shall be noted on the Plan in furlongs and chains; and where tunnelling as a substitute for open cutting is intended, such tunnelling shall be marked by a dotted line on the Plan.

Distances to be marked in Miles and Furlongs, and memorandum of Curves and Tunnelling.

47.

If it be intended to divert, widen or narrow any Turnpike Road, Public Carriage Road, Navigable River, Canal or Railway, the course of such diversion, and the extent of such widening or narrowing, shall be marked upon the Plan.

Diversion and widening or narrowing of Roads, &c. to be shown.

48.

Book of Reference.

The Book of Reference to every such Plan shall contain the names of the Owners or Reputed Owners, Lessees or Reputed Lessees, and Occupiers of all Lands and Houses in the Line of the proposed Work, or within the limits of deviation as defined upon the Plan, and shall describe such Lands and Houses respectively.

Contents of Book of Reference.

Sections.

49.

The Section shall be drawn to the same horizontal scale as the Plan, and to a vertical scale of not less than *one inch* to every 100 feet, and shall show the surface of the ground marked on the Plan, the intended level of the proposed Work, the height of every Embankment and the depth of every Cutting, and a datum horizontal line, which shall be the same throughout the whole length of the Work, or any Branch thereof respectively, and shall be referred to some fixed point (stated in writing on the section), near some portion of such Work, and in the case of a Canal, Cut, Navigation, Turnpike or other Carriage-road or Railway, near either of the Termini. (*See* line D. D., Fig. 2.)

Section to be drawn to a scale of not less than one inch to every 100 feet.

Standing Orders, compliance with which is to be proved before Examiners.

50.

Section to specify level of both banks.

In cases of Bills for improving the Navigation of any River, there shall be a Section which shall specify the Levels of both Banks of such River; and where any alteration is intended to be made therein, it shall describe the same by Feet and Inches, or decimal parts of a foot.

51.

Line of Railway on Section to correspond with upper surface of Rails.

In every Section of a Railway, the Line of the Railway marked thereon shall correspond with the upper surface of the rails. (*See* line S. S. Fig. 2.)

52.

Vertical measures to be marked at change of gradient.

Distances on the Datum Line shall be marked in miles and furlongs, to correspond with those on the Plan; a vertical measure from the Datum Line to the Line of the Railway shall be marked in feet and inches, or decimal parts of a foot, at each change of the gradient or inclination; and the proportion or rate of inclination between each such change shall also be marked.

53.

Height of Railway over, or depth under surface of Roads, &c. to be marked, and Bridges and Level Crossings.

Wherever the line of the Railway is intended to cross any turnpike-road, public carriage-road, navigable River, Canal or Railway, the height of the Railway over or depth under the surface thereof, and the height and span of every Arch of all Bridges and Viaducts, by which the Railway will be carried over the same, shall be marked in figures at every crossing thereof; and where the Railway will be carried across any such turnpike-road, public carriage-road or Railway, on the level thereof, such crossing shall be so described on the Section; and it shall also be stated if such level will be unaltered.

54.

Cross Sections of Canals, Roads, &c. crossed by the Railway when level or rate of inclination altered.

If any alteration be intended in the water level of any Canal, or in the level or rate of inclination of any turnpike-road, public carriage-road, or Railway, which will be crossed by the line of Railway, then the same shall be stated on the said Section, and each alteration shall be numbered; and Cross Sections, in reference to the said numbers, on a horizontal scale of not less than one inch to every 330 feet, and on a vertical scale of not less than one inch to every 40 feet, shall be added, which shall show the present surface of such Canal, Road or Railway, and the intended surface thereof when altered, such Cross Sections to extend not less than 100 yards on each side of the centre line of the Railway; and the greatest of the present and intended rates of inclination of such Road or Railway shall also be marked in figures thereon. (*See* Fig. 4.)

55.

Embankments and Cuttings.

Wherever the extreme height of any embankment, or the extreme depth of any cutting shall exceed Five Feet, the extreme height over or depth under the surface of the ground shall be marked in figures upon the Section; and if any Bridge or Viaduct of more than three arches shall intervene in any Embankment, or

if

if any Tunnel shall intervene in any Cutting, the extreme height or depth shall be marked in figures on each of the parts into which such Embankment or Cutting shall be divided by such Bridge, Viaduct or Tunnel.

Standing Orders, compliance with which is to be proved before Examiners.

56.

Where tunnelling, as a substitute for open cutting, or a viaduct as a substitute for solid embankment, is intended, the same shall be marked on the Section.

Tunnelling and Viaduct to be marked.

5. *Estimates and Subscription Contracts or Declarations in lieu of Subscription Contracts; and Deposit of Money in certain cases.*

57.

An Estimate of the Expense of the Undertaking under each Bill of the Second Class shall be made and signed by the person making the same, and a Subscription shall be entered into under a Contract, made as hereinafter described, to *three-fourths* the amount of such Estimate. (*See* as to depositing Estimate and Subscription Contract in Private Bill Office, No. 39.)

Estimate and Subscription Contract in Bills of the Second Class.

58.

Every Subscription Contract shall contain the Christian Names and Surnames, Description and Place of Abode of every Subscriber; his Signature to the amount of his Subscription, with the amount which he has paid up; and the Name of the Party witnessing such Signature, and the date of the same respectively; and the legal description and seal of any corporate body being a party to such contract; and the total amount of such Subscriptions, and of the sums so paid up.

Contract to contain Christian and Surnames of Parties.

59.

No Subscription Contract shall be valid, excepting in the case of Railway Bills, (for which *see* Order 60), unless it be entered into subsequent to the close of the Session of Parliament previous to that in which application is made for leave to bring in the Bill to which it relates, and unless the Parties subscribing to it bind themselves, their Heirs, Executors and Administrators, for the Payment of the Money so subscribed, to be recoverable by action at law.

Not valid unless entered into subsequent to close of previous Session.

60.

As regards Railway Bills, no Subscription Contract shall be valid, unless it be entered into subsequent to the commencement of the Session of Parliament previous to that in which application is made for leave to bring in the Bill to which it relates, and unless the parties subscribing to it bind themselves, their heirs, executors and administrators, for the payment of the money so subscribed, to be recoverable by action at law.

Subscription Contract not valid, unless entered into subsequent to the commencement of previous Session.

61.

In all cases of application to Parliament by existing Railway Companies, for powers to raise additional capital for the purpose

Subscription Contracts, existing Railway Companies.

Standing Orders, compliance with which is to be proved before Examiners.

purpose of constructing Branches or Extensions, or other new works, or of contributing towards the expense of constructing other Lines of Railways or Works, a Subscription Contract shall be entered into for Three-fourths of such additional Capital as may be required for these purposes, beyond the Capital authorized to be raised for the existing Lines, whether the Bill be of the first or second class; and deposits shall be duly paid thereon as hereinafter required. (*See* No. 65.)

62.

Cases wherein Declaration may be deposited in lieu or in aid of Subscription Contract.

Where the Work is to be made, wholly or in part, by means of Funds, or out of Money to be raised upon the credit of present Surplus Revenue, belonging to any Society or Company, or under the control of Directors, Trustees, or Commissioners, as the case may be, of any existing Public Work, such parties being the Promoters of the Bill, a Declaration stating those facts, and setting forth the nature of such control, and the nature and amount of such Funds or Surplus Revenue, and showing the actual Surplus of such Funds or Revenue, after deducting the Funds required for purposes authorized by any Act or Acts of Parliament, and also the Funds which may be required for any other Work to be executed under any Bill in the same Session, and given under the common seal of the Society or Company, or under the hand of some authorized Officer of such Directors, Trustees or Commissioners, may be deposited in lieu or in aid of the Subscription Contract, and in addition to the Estimate of the Expense, provided such surplus Funds shall be not less than the whole amount of the Estimate, or the portion thereof not provided for by a Subscription Contract. (*See* as to depositing Subscription Contracts in Private Bill Office, No. 39.)

63.

Cases wherein Declaration and Estimate of Amount of Rates may be substituted for Subscription Contract.

In cases where the Work is to be made out of Money to be raised upon the Security of the Rates, Duties or Revenue to be created by or to arise under any Bill, under which no private or personal pecuniary profit or advantage is to be derived, a Declaration stating those facts, and setting forth the means by which Funds are to be obtained for executing the Work, and signed by the Party or Agent soliciting the Bill, together with an Estimate of the probable amount of such Rates, Duties or Revenue, signed by the Person making the same, may be substituted for the Subscription Contract, and in addition to the Estimate of the Expense. (*See* as to depositing Estimate and Subscription Contract in Private Bill Office, No. 39.)

Deposit of Money.

64.

One-twentieth part of the Amount required to be subscribed to be deposited.

Excepting in the case of a Railway Bill (for which *see* Order 65), a sum not less than *One-twentieth* part of the amount required to be subscribed (*see* No. 57) shall, previously to the 15th day of January, be deposited with the Court of Chancery in *England*, if the Work is intended to be done in *England*, or with the Court of Chancery in *England* or the Court of Exchequer in *Scotland*, if such Work is intended to be done in *Scotland*, and with the Court of Chancery in *Ireland*, if such Work is intended to be done in *Ireland*. (*See* Appendix C.)

Standing Orders, compliance with which is to be proved before Examiners.

65.

One-tenth part of the Amount required to be subscribed to be deposited.

In the case of Railway Bills, a sum not less than One-tenth part of the amount required to be subscribed (*see* No. 57) shall, previously to the 15th day of January, be deposited with the Court of Chancery in England, if the Railway is intended to be made in England; or with the Court of Chancery in England or the Court of Exchequer in Scotland, if such Railway is intended to be made in Scotland; and with the Court of Chancery in Ireland, if such Railway is intended to be made in Ireland.

IV.

PROCEEDINGS OF EXAMINERS, OF CHAIRMAN OF COMMITTEE OF WAYS AND MEANS, AND OF COMMITTEES.

Proceedings of Examiners.

IV.

PROCEEDINGS OF EXAMINERS, OF CHAIRMAN OF COMMITTEE OF WAYS AND MEANS, AND OF COMMITTEES.

PROCEEDINGS OF THE EXAMINERS OF PETITIONS FOR PRIVATE BILLS.

66.

When Examination of Petitions to commence.

The Examination of the Petitions for Private Bills which shall have been duly deposited in the Private Bill Office, shall commence on the 25th day of January, in such order and according to such regulations as shall have been made by Mr. Speaker.

67.

Notice to be given by one of the Examiners of day appointed for Examination.

One of the Examiners shall give at least Seven clear Days' Notice in the Private Bill Office of the day appointed for the Examination of each Petition which shall have been duly deposited in the Private Bill Office; and in case the promoters shall not appear at the time when the Petition shall come on to be heard, the Examiner to whom the case shall have been allotted, shall strike the Petition off the General List of Petitions, and shall not re-insert the same, except by order of the House.

68.

Memorials complaining of non-compliance.

Any parties shall be entitled to appear and to be heard, by themselves, their agents and witnesses, upon a Memorial addressed to the Examiner, complaining of a non-compliance with the Standing Orders, provided the matter complained of be specifically stated in such Memorial, and the party (if any) who may be specially affected by the non-compliance with the Standing Orders have signed such Memorial and shall not have withdrawn his signature thereto, and such Memorial have been duly deposited in the Private Bill Office. (*See* Orders 174, 195.)

69.

Proof by Affidavit.

The Examiner may admit Affidavits in proof of the compliance with the Standing Orders of The House, unless in any case he shall require further evidence; and such Affidavit shall be sworn, if in England, before a Justice of the Peace; if in Scotland, before any Sheriff Depute or his Substitute; and if in Ireland, before any Judge or Assistant Barrister of that part of the United Kingdom.

70.

Examiner to indorse Petition, and when Standing Orders not complied with, to report.

The Examiner shall certify by indorsement on each Petition which shall have been duly deposited in the Private Bill Office, whether the Standing Orders have or have not been complied with; and, when they have not been complied with, he shall also report to the House the facts upon which his decision is founded, and any special circumstances connected with the case.

71.

To report in all cases of Petitions for additional provision in Private Bills, &c.

In all cases of Petitions for additional provision in Private Bills and of Estate Bills brought from the House of Lords, and of Bills introduced by leave of this House in lieu of other Bills which shall have been withdrawn, and referred to the Examiner, the Examiner shall give at least Two clear Days' notice of the day on which the same will be examined; and he shall report to the House whether the Standing Orders have or have not been complied with; and, when they have not been complied with, the facts upon which his decision is founded, and any special circumstances connected with the case.

72.

Special Report in certain cases.

In case the Examiner shall feel doubts as to the due construction of any Standing Order in its application to a particular case, he shall make a Special Report of the facts to the House, without deciding whether the Standing Order has or has not been complied with; and in such case he shall indorse the Petition with the words "Special Report," either alone, or if non-compliances with other Standing Orders shall have been proved, in addition to the words "Standing Orders not complied with."

Proceedings of Chairman of Ways and Means.

PROCEEDINGS OF, AND IN RELATION TO, THE CHAIRMAN OF THE COMMITTEE OF WAYS AND MEANS, AND THE COUNSEL TO MR. SPEAKER.

73.

Chairman of Ways and Means to examine all Private Bills, &c.

The Chairman of the Committee of Ways and Means, with the assistance of the Counsel to Mr. Speaker, shall examine all Private Bills, whether opposed or unopposed, and call the attention of The House, and also of the Chairman of the Committee on every opposed Private Bill, to all points which may appear to him to require it; and Copies of all such Bills shall be laid by the Agent before the said Chairman and Counsel not later than the day after the Examiner of Petitions shall have indorsed the Petition for the Bill.

74.

Copies of Bill as proposed to be submitted to Committee, to be laid before Chairman of Ways and Means, &c.

Three clear Days at least before the First Meeting of the Committee on any Private Bill, there shall be laid before the Chairman of the Committee of Ways and Means and the Counsel to Mr. Speaker, by the Agent, Copies of every such Bill as proposed to be submitted to the Committee, and such Copies shall be signed by the Agent for the Bill.

75.

Power to Chairman to report special circumstances, &c. to The House.

The Chairman of the Committee of Ways and Means shall be at liberty, at any period after any Private Bill shall have been referred to a Committee, to report to The House any special circumstances relative thereto which may appear to him to require it, or to inform The House that in his opinion any unopposed Private Bill should be treated as an opposed Private Bill.

76.

Copy of Bill as amended in Committee to be laid before Chairman of Ways and Means, &c.

Three clear Days at least before the consideration of any Private Bill ordered to lie upon the Table, a Copy of every such Bill, as amended in Committee, shall be laid by the Agent before the Chairman of the Committee of Ways and Means and the Counsel to Mr. Speaker, and deposited at the Office of the Board of Trade.

77.

On consideration of Report of Railway Bill, Chairman of Ways and Means to acquaint the House if Orders have been observed.

On or before the consideration of the Report of every Railway Bill, the Chairman of the Committee of Ways and Means shall inform The House, or signify in writing to Mr. Speaker, whether the Bill contain the several provisions required by the Standing Orders.

78.

Clause or Amendment on consideration of Bill, or on Third Reading, to be

When it is intended to bring up any Clause, or to propose any Amendment on the consideration of any Private Bill ordered to lie upon the Table, or on the Third Reading of any Private Bill, the same shall be submitted by the Agent to the Chairman of the

Proceedings of Chairman of Ways and Means.

Committee of Ways and Means, and the Counsel to Mr. Speaker, on the day on which notice is given thereof in the Private Bill Office; and the said Chairman shall inform The House, or signify in writing to Mr. Speaker, whether such Clause or Amendment be such as ought or ought not to be entertained by The House, without referring the same to the Select Committee on Standing Orders.

submitted to Chairman of Ways and Means, &c.

79.

Copy of Amendments by House of Lords, and of proposed Amendments thereto, to be laid before Chairman of Ways and Means, &c.

A Copy of all Amendments made in The House of Lords to any Private Bill, and of all Amendments to such Amendments intended to be proposed in this House, shall be laid by the Agent before the Chairman of the Committee of Ways and Means and the Counsel to Mr. Speaker, before Two o'clock on the day previous to that on which the same are respectively appointed for consideration by The House.

Proceedings of Standing Orders Committee.

PROCEEDINGS OF THE SELECT COMMITTEE ON STANDING ORDERS.

80.

When any Report of the Examiner of Petitions for Private Bills, in which he shall report that the Standing Orders have not been complied with, shall have been referred to the Select Committee on Standing Orders, and after the Petition for the Bill shall have been duly presented, they shall report to The House whether such Standing Orders ought or ought not to be dispensed with, and whether in their opinion the parties should be permitted to proceed with their Bill, or any portion thereof, and under what (if any) conditions.

To report whether Standing Orders ought or ought not to be dispensed with.

81.

When any Special Report from the Examiner of Petitions as to the construction of a Standing Order shall have been referred to the Select Committee on Standing Orders, they shall determine, according to their construction of the Standing Order, and on the facts stated in such Report, whether the Standing Orders have or have not been complied with, and they shall then either report to the House that the Standing Orders have been complied with, or shall proceed to consider the question of dispensing with the Standing Orders, as the case may be.

Proceeding in case of Special Report.

82.

When any Petition praying that any of the Sessional or Standing Orders of The House relating to Private Bills may be dispensed with, shall stand referred to the Select Committee on Standing Orders, they shall report to The House whether such Sessional or Standing Orders ought or ought not to be dispensed with.

To report whether Sessional or Standing Orders ought or ought not to be dispensed with.

83.

When any Petition for the re-insertion of any Petition for a Private Bill in the General List of Petitions shall stand referred to the Select Committee on Standing Orders, they shall report to the House whether in their opinion such Petition ought or ought not to be re-inserted, and, if re-inserted, under what (if any) conditions.

To report whether Petition ought or ought not to be re-inserted in the General List.

84.

When any Clause or Amendment proposed on the consideration of any Private Bill ordered to lie upon the Table shall have been referred to the Select Committee on Standing Orders, they shall report to The House whether such Clause or Amendment should be adopted by The House or not, or whether the Bill should be re-committed.

To report whether Clause or Amendment on consideration of Bill should be adopted by House or not, or whether Bill should be re-committed.

85.

When any Clause or Amendment proposed in any Private Bill on the Third Reading shall have been referred to the Select Committee on Standing Orders, they shall report to The House whether such Clause or Amendment ought or ought not to be adopted by The House at that stage.

To report whether Clause or Amendment on Third Reading ought or ought not to be adopted by House at that stage.

87.

This Order has been amended by inserting in line 3, the words " and the General Committee on Railway and Canal Bills may form into groups all Railway and Canal Bills."

88 and 89.

These Orders have been omitted.

91.

This Order has been amended by omitting the word " Sub-Committee " at the end thereof, and adding the words " Committee on any Group of such Bills."

Proceedings of Committee of Selection, &c.

PROCEEDINGS OF THE COMMITTEE OF SELECTION, AND OF THE GENERAL COMMITTEE ON RAILWAY AND CANAL BILLS.

86.

Printed Copies of Bills to be laid before Committee of Selection and General Committee.

Printed copies of all Private Bills, not being Railway or Canal Bills, shall be laid before the Committee of Selection, and Printed Copies of all Railway and Canal Bills before the General Committee on Railway and Canal Bills, by the parties promoting the same, at the first Meeting of the said Committees respectively, which shall be held after the 10th of January in each Year.

87.

Committee of Selection and General Committee to group Private Bills.

The Committee of Selection may, if they think fit, form into Groups all Private Bills, not being Railway or Canal Bills, and the General Committee on Railway and Canal Bills may form into Groups all Railway and Canal Bills, which, in their opinion, it may be expedient to submit to the same Committee, and shall report the same to The House.

90.

Railway and Canal unopposed Bills.

The General Committee on Railway and Canal Bills may, whenever they shall think fit, refer any unopposed Railway or Canal Bill to the Chairman of the Committee of Ways and Means and two other Members not locally or otherwise interested, to be nominated by the Committee of Selection.

91.

Committee of Selection and General Committee to name Bill or Bills to be considered on the first day.

The Committee of Selection shall name the Bill or Bills which shall be taken into consideration on the first day of the meeting of the Committee, on any Group of Bills not being Railway or Canal Bills; and the General Committee on Railway and Canal Bills shall name the Bill or Bills which shall be taken into consideration on the first day of the meeting of each Committee on any Group of such Bills.

92.

What Bills not to be considered opposed.

The Committee of Selection shall consider no Bill as an opposed Private Bill, unless either previous to, or not later than Seven clear Days after, the Second Reading thereof, a Petition shall have been presented against it, in which the Petitioner or Petitioners shall have prayed to be heard, by themselves, their Counsel or Agents, or unless, where no such Petition shall have been presented, the Chairman of the Committee of Ways and Means shall have reported to The House that in his opinion any Bill ought to be so treated.

Proceedings of Committee of Selection, &c.

93.

The Committee of Selection shall refer every opposed Private Bill which shall have been referred to them, or any Group of such Bills, to a Chairman and Four Members, not locally or otherwise interested therein; and if such Bill or Group shall specially relate to any one County, Division of a County, or Parliamentary Borough, the Committee of Selection shall add the Member or Members representing the same; and if such Bill or Group shall relate to more than one county, division of a county, or Parliamentary borough, the Committee of Selection shall add so many of the Members representing the same as they shall think fit to select; and the Committee of Selection shall name the Bill or Bills in respect of which each such Member is added, and on which alone he shall serve.

Constitution of Committees on opposed Private Bills.

94.

The Committee of Selection shall refer every unopposed Private Bill, which shall have been referred to them, to the Chairman of the Committee of Ways and Means, together with one of the Members ordered to prepare and bring in the same, and one other Member not locally interested therein, if the Bill shall have originated in this House; and if the Bill shall have been brought from The House of Lords, to the Chairman of the Committee of Ways and Means, together with Two other Members, of whom one at least shall not be locally or otherwise interested therein.

Constitution of Committees on unopposed Private Bills.

95.

The Committee of Selection shall give each Member not less than Fourteen Days' notice, by publication in the Votes or otherwise, of the week in which it will be necessary for him to be in attendance for the purpose of serving, if required, as a Member, not locally or otherwise interested, of a Committee on a Private Bill.

Committee of Selection to give notice to Members.

96.

The Committee of Selection shall give to each Member sufficient Notice of his appointment as a Member of a Committee on any Private Bill, or Group of such Bills, and, in every case where a declaration is required to be signed and returned by such Member, shall transmit to him a blank form of the Declaration required, with a request that it may forthwith be returned properly filled up and signed.

Notice of Appointment and Declaration to be transmitted to Members.

97.

The Committee of Selection shall report to The House the name of every Member, from whom they shall not have received in due time such Declaration, so filled up and signed, or, in lieu thereof, an excuse which they shall deem sufficient.

Members returning no answer to be reported.

98.

The Committee of Selection shall have the power of substituting, at any time before the first meeting of a Committee, another Member for any Member whom they shall deem it proper to excuse from serving on that Committee.

One Member may be substituted for another.

99. The

Proceedings of Committee of Selection, &c.

99.

The Committee of Selection shall, subject to the order in regard to the interval between the Second Reading of every Private Bill and the Sitting of the Committee thereupon, fix the time for holding the *First Sitting* of every Committee on a Private Bill referred to them.

Committee of Selection to appoint First Sitting of Committee.

100.

The Committee of Selection shall have power, in the execution of their duties, to send for Persons, Papers and Records.

Committee of Selection to send for persons, &c.

"AND OF SUB-COMMITTEES ON RAILWAY AND CANAL BILLS" have been omitted in the Heading.

101.

This Order has been amended by omitting the word "Sub" in line 1, and the words "or Sub-Committee" in line 11.

104.

This Order has been amended by omitting the word "Sub" in line 1.

105 and 108.

These Orders have been transposed, and placed after 110.

Proceedings of Committees on Opposed Bills.

PROCEEDINGS OF COMMITTEES ON OPPOSED BILLS.

101.

Declaration of Members not locally interested.

Each Member of a Committee on Railway and Canal Bills, and each of the Five Members, not locally or otherwise interested, of a Committee on an opposed Private Bill, or group of such Bills, shall, before he be entitled to attend and vote on such Committee, sign the following Declaration:

> I do hereby declare, That my constituents have no local interest, and that I have no personal interest, in such Bill; and that I will never vote on any question which may arise without having duly heard and attended to the Evidence relating thereto.

And no such Committee shall proceed to business until the said Declaration shall have been so signed by each of such Members.

102.

Quorum to be always present.

Committees shall be allowed to proceed if Three of the Five Members, not locally or otherwise interested, shall be present, but not with a less number, unless by special leave of the House.

103.

When Proceedings of Committee to commence.

So soon after the expiration of *Ten Minutes* after the time appointed for the first sitting of a Committee on an opposed Private Bill, not being a Railway or Canal Bill, as there shall be present at least *Three* of the *Five* Members appointed, as not being locally or otherwise interested therein, to serve on such Committee, provided that all the said *Five* Members shall have duly signed and delivered in the Declaration as hereinbefore provided, the Chairman shall proceed to take the Chair of the Committee.

104.

Members not to absent themselves.

No Member of a Committee on Railway and Canal Bills, nor any of the Five Members, not locally or otherwise interested, of the Committee on any other Private Bill, shall absent himself from his duties thereon, except in the case of sickness, or by order of The House.

107.

When Chairman absent.

If the Chairman shall be absent from the Committee, the Member next in rotation on the List of Members not locally or otherwise interested in the Bill or Bills referred to them, who shall be present, shall act as Chairman.

108.

Proceedings to be suspended if Quorum not present.

If at any time during the sitting of any Committee *Three* at least of the Members, not locally or otherwise interested, shall not be present, the Chairman of the Committee shall suspend the proceedings of such Committee until *Three* at least shall be present; and if at the expiration of *One Hour* from the time fixed for the meeting of the Committee, or from the time when the Chairman shall so have suspended the proceedings of such Committee, *Three* such Members shall not be present, the

Committee shall be adjourned to the next day on which The House shall sit, and then shall meet at the hour on which such Committee would have sat, had no such adjournment taken place.

109.

Members absent to be reported to The House.

If any of the Members not locally or otherwise interested shall not be present within One Hour after the time appointed for the meeting of the Committee, or if any such Member shall absent himself from his duties on such Committee, every such Member shall be reported to The House at its next sitting.

110.

Absence of Quorum by Death or otherwise to be reported.

If at any time after the Committee on a Bill shall have been formed, a Quorum of Members required by the Standing Orders cannot attend in consequence of any of the Members who shall have duly qualified to serve on such Committee having become incompetent to continue such service by having been placed on an Election Committee, or by death or otherwise, the Chairman shall report the circumstances of the case to The House, in order that such measures may be taken by The House as shall enable the Members still remaining on the Committee to proceed with the business referred to such Committee, or as the exigency of the case may require.

106.

Questions to be decided by majority of voices.

All questions before Committees on Private Bills shall be decided by a majority of voices, including the voice of the Chairman; and whenever the voices are equal, the Chairman shall have a second or casting vote.

105.

Committee on Group to consider that Bill first which Committee of Selection or General Committee shall have named, and to appoint day for Consideration of remaining Bills, of which Clerk of Committee to give Notice.

The Committee on each Group of Bills shall take the Bill or Bills first into consideration which shall have been named by the Committee of Selection, or by the General Committee on Railway and Canal Bills (*see* No. 91); and the Committee shall, from time to time, appoint the day on which they will enter upon the consideration of each of the remaining Bills, and on which they will require the parties severally promoting or opposing the same to enter appearances; and Two clear Days' notice, at the least, of such appointment, shall be sent by the Clerk attending the Committee to the Clerks in the Private Bill Office; and in case the Committee shall postpone the consideration of any Bill, the like notice shall be given of such postponement.

110 *a*.

Cases of Adjournment to be specially reported.

Every Committee on an opposed Private Bill shall report specially to the House the cause of any Adjournment other than from day to day, unless such Adjournment shall be over Saturday, Sunday, Good Friday, or Christmas-day.

111.

Petition against Bill not to be con-

No Petition against a Private Bill shall be taken into consideration by the Committee on such Bill, which shall not distinctly specify the ground on which the Petitioners object to any

of

105.

This Order has been amended by omitting the words "and every Sub-Committee on Railway and Canal Bills" in lines 1 and 2; omitting the words "or Sub" in line 5; also, the words "or Sub-Committee" in line 11; and substituting the word "appointment" for "determination" in line 9.

110 *a*.

This is a new Order.

116.

This Order has been amended by omitting the word " Sub " in line 1.

117.

This Order has been amended by inserting after the word " facts " in line 6, the words " if not Railway or Canal Bills ;" and in line 7, after the word " Selection," the words " and if Railway and Canal Bills, to the General Committee on Railway and Canal Bills."

of the provisions thereof; and the Petitioners shall be only heard on such grounds so stated; and if it shall appear to the said Committee, that such grounds are not specified with sufficient accuracy, the Committee may direct that there be given in to the Committee a more specific Statement, in writing, but limited to such grounds of Objection so inaccurately specified.

sidered except grounds of objection sufficiently specified.

112.

No Petitioners against any Private Bill shall be heard before the Committee on the Bill, unless their Petition shall have been prepared and signed in strict conformity with the Rules and Orders of this House, and shall have been presented to this House by having been deposited in the Private Bill Office, either previous to, or not later than *Seven* clear *Days* after, the Second Reading of such Bill, except where the Petitioners shall complain of any matter which may have arisen during the progress of the Bill before the said Committee, or of any proposed additional provision, or of the Amendments as proposed in the filled-up Bill deposited in the Private Bill Office.

Petitioners against Bill not to be heard unless Petition presented not later than Seven clear Days after Second Reading, &c.

113.

It shall be competent to the Committee on any Private Bill to admit Petitioners to be heard upon their Petitions against such Bill, on the ground of competition, if they shall think fit.

Competition to be a ground of locus standi.

114.

Where a Bill is promoted by an Incorporated Company, Shareholders of such Company shall not be entitled to be heard before the Committee against such Bill, unless their interests, as affected thereby, shall be distinct from the general interests of such Company.

In what cases Shareholders to be heard.

115.

Where a Railway Bill contains provisions for taking or using any part of the Lands, Railway, Stations or Accommodations of another Company, or for running Engines or Carriages upon or across the same, or for granting other facilities, such Company shall be entitled to be heard upon their Petition against the Preamble and Clauses of such Bill.

In what cases Railway Companies to be heard.

116.

It shall be competent to the Committee on any Railway or Canal Bill to admit Petitioners, being the Municipal Authorities of any Town, or the Inhabitants of any Town or District alleged to be injuriously affected by a Bill, to be heard against such Bill, if they shall think fit.

Municipal authorities and Inhabitants of Towns, &c.

117.

In all cases of opposed Private Bills, in which no parties shall have appeared on the Petitions against such Bills, or having appeared shall have withdrawn their opposition before the evidence of the Promoters shall have been commenced, the Committees on such Bills shall forthwith refer them back, with a statement of the facts, if not Railway or Canal Bills, to the Committee of Selection, and if Railway and Canal Bills, to the General Committee on Railway and Canal Bills, who shall deal with them as unopposed Bills.

When opposed Bills may be treated as unopposed.

122.

This Order has been amended by leaving out the word " that " in line 4.

Proceedings of Committees on Bills.

Proceedings of, and in Relation to, Committees on Bills, whether Opposed or Unopposed.

118.

At the first Meeting of the Committee, Copies of the Bill, as proposed to be submitted to them, and signed by the Agent, shall be laid by him before each Member of the Committee.

Filled-up Copies of Bill to be laid before each Member.

119.

No Member added in respect of local representation to a Committee on any Private Bill shall have a Vote on any question that may arise, but every such Member shall be entitled to attend and take part in the proceedings of the Committee.

Local Member not to vote.

120.

The Names of the Members attending each Committee shall be entered by the Clerk on the Minutes of the Committee; and if any Division shall take place in the Committee, the Clerk shall take down the Names of Members voting in any such Division, distinguishing on which side of the question they respectively vote, and that such Lists be given in with the Report to The House.

Names of Members to be entered on Minutes.

121.

No Committee shall have power to examine into the compliance or non-compliance with such Standing Orders as are directed to be proved before the Examiner of Petitions for Private Bills, unless by special order of The House.

Committee on Bill not to inquire into certain Standing Orders.

122.

The Committee on any Private Bill may admit affidavits in proof of the compliance with such Standing Orders of the House as are directed to be proved before them, unless in any case they shall require further evidence; and such affidavits shall be sworn, if in England, before a Justice of the Peace; if in Scotland, before any Sheriff-depute or his substitute; and if in Ireland, before any Judge or Assistant Barrister of that part of the United Kingdom.

Committee may admit affidavits in proof of compliance with Standing Orders.

123.

The Committee may admit proof of the Consents of Parties concerned in interest in any Private Bill, by Affidavits, sworn as aforesaid, or by the Certificate in writing of such Parties, whose Signatures to such Certificate shall be proved by *one* or more Witnesses, unless the Committee shall require further Evidence.

Consents, how to be proved.

124.

The Committee shall make a Special Inquiry into the *bonâ fide* character of the Subscription Contract, if any, and the sufficiency of the Subscribers thereto, and report their Opinion thereupon to The House.

Special Inquiry into Subscription Contract, &c.

125.

Clause compelling payment of Subscriptions.

In all Bills presented to The House for carrying on any Work by means of a Company, Commissioners or Trustees, Provision shall be made for compelling Persons who have subscribed any Money towards carrying any such Work into execution, to make payment of the Sums severally subscribed by them.

126.

Provision to be made in Bills by which Tolls, &c. are to be levied.

In all Bills whereby any Parties are authorized to levy Fees, Tolls or other Rate or Charge, Clauses shall be inserted, providing for the following objects, except in so far as any of such objects shall have been provided for in some general Act applicable to the subject-matter of the Bill:—

Security to be taken from Treasurer, &c.

Security to be taken from the Treasurer, Collector, or Receiver, and every other officer entrusted with the collection or custody of monies under the Bill, for the faithful execution of his office.

Accounts to be kept.

Full and accurate Accounts to be kept of all monies received and expended under the provisions of the Bill, and that such Accounts be balanced once in each year at the least.

Accounts to be audited.

Such Accounts to be duly audited once in each year at the least, and that for such purpose an Auditor or Auditors be appointed by some person or persons not immediately connected with the Commissioners, Directors, Trustees, or other party, by whom, or by whose direction or authority, such Fees, Tolls, Rates or Charges shall be levied.

Accounts, Vouchers, &c., to be produced to Auditors.

For the purpose of auditing such Accounts, the Commissioners, Directors, Trustees or other such party as aforesaid to be required to cause the Accounts, together with all their Books and Vouchers, to be produced to the Auditors.

Remuneration to Auditors.

The remuneration of the Auditor, and his expenses, to be defrayed out of the funds levied under the Bill.

Abstract of Account to be annually transmitted to Clerk of Peace.

An annual Account, in abstract, to be prepared of the total Receipts and Expenditure of all funds levied under such Bill for the past year, under the several distinct heads of Receipts and Expenditure, with a Statement of the Balance of the said Account duly audited and certified by the Chairman of the Commissioners, Directors, Trustees or other parties aforesaid, and also by the Auditors thereof; and a copy of such annual Account to be transmitted, free of charge, to the Clerk of the Peace (or in Scotland to the Sheriff Clerk) for the County, or to the Clerk of the City or Borough within which the chief Office for the management of such funds shall be situated, on or before the *Thirty-first* day of *January* in each year, under a sufficient Penalty for not preparing and sending in the said Account, to be levied by summary process; the said Account to be open at all seasonable hours to the inspection of the Public upon payment of a Fee.

127.

Level of Roads.

Where the level of any Road shall be altered in making any Public Work, the ascent of any Turnpike Road, or of any

Road

Proceedings of Committees on Bills.

Road in Ireland so defined in the Railway Clauses Consolidation Act, 1845, shall not be more than One foot in 30 feet, and of any other public Carriage Road not more than One foot in 20 feet; and a good and sufficient Fence, of Four feet high at the least, shall be made on each side of every Bridge which shall be erected.

Fence to Bridge.

128.

Every Plan, and Book of Reference thereto, which shall be produced in evidence before the Committee upon any Private Bill (whether the same shall have been previously lodged in the Private Bill Office, or not,) shall be signed by the Chairman of such Committee, with his Name at length; and he shall also mark with the Initials of his Name every Alteration of such Plan and Book of Reference, which shall be agreed upon by the said Committee; and every such Plan and Book of Reference shall thereafter be deposited in the Private Bill Office.

Plan, &c., to be signed by Chairman.

129.

The Chairman of the Committee shall sign, with his Name at length, a printed Copy of the Bill (to be called the Committee Bill), on which the Amendments are to be fairly written; and also sign, with the Initials of his Name, the several Clauses added in the Committee.

Committee Bill and Clauses to be signed by Chairman.

130.

The Chairman of the Committee shall report to The House, that the Allegations of the Bill have been examined; and whether the Parties concerned have given their Consent (where such Consent is required by the Standing Orders) to the satisfaction of the Committee.

Chairman to report on allegations of Bill &c.

131.

The Chairman of the Committee shall report the Bill to The House, whether the Committee shall or shall not have agreed to the Preamble, or gone through the several Clauses, or any of them; or where the Parties shall have acquainted the Committee that it is not their intention to proceed with the Bill; and when any alteration shall have been made in the Preamble of the Bill, such alteration, together with the ground of making it, shall be specially stated in the Report.

Chairman to report Bill in all cases.

132.

The Minutes of the Committee on every Private Bill shall be brought up and laid on the Table of The House, with the Report of the Bill.

Minutes of Committee.

Railway Bills.

133.

In the case of a Railway Bill, no Company shall be authorized to raise, by Loan or Mortgage, a larger sum than *One-third* of their capital; and until *Fifty per cent.* on the whole of the capital shall have been paid up, it shall not be in the power of the Company to raise any Money by Loan or Mortgage.

Restrictions as to Mortgage.

Proceedings of Committees on Bills.

134.

Limiting ascent of Roads where Level is altered.

Where the level of any road shall be altered in making any Railway, the ascent of any Turnpike Road, or of any Road in Ireland, so defined in the Railway Clauses Consolidation Act, 1845, shall not be more than One foot in 30 feet, and of any other public carriage-road not more than One foot in 20 feet, unless a report from some officer of the Railway Department of the Board of Trade shall be laid before the Committee on the Bill, recommending that steeper ascents than the above may be allowed, with the reasons and facts upon which his opinion is founded, and the Committee shall report in favour of such recommendation: Also, a good and sufficient Fence, of Four feet high at the least, shall be made on each side of every Bridge which shall be erected.

Fence to Bridge.

135.

Railway not to cross Roads on a Level unless Committee report, &c.

No Railway whereon carriages are propelled by steam, or by atmospheric agency, or drawn by ropes in connexion with a stationary steam-engine, shall be made across any turnpike-road or other public carriage-way on the level, unless a Report from some Officer of the Railway Department of the Board of Trade shall be laid before the Committee on the Bill, recommending such level crossing, with the reasons and facts upon which his opinion is founded, and the Committee shall report in favour of such recommendation.

136.

Railway Company not to acquire Docks, &c. unless Committee report, &c.

No Railway Company shall be authorized to construct or enlarge, purchase or take on lease, or otherwise appropriate any Dock, Pier, Harbour or Ferry, or to acquire and use any Steam-vessels for the conveyance of goods and passengers, or to apply any portion of their capital or revenue to other objects, distinct from the Undertaking of a Railway Company, unless the Committee on the Bill report that such a restriction ought not to be enforced, with the reasons and facts upon which their opinion is founded.

Matters to be specially reported.

137.

Capital.

In the case of a Railway Bill, the Committee shall report specially:—

1. The proposed Capital of the Company formed for the execution of the project, and the amount of any Loans which they may be empowered to raise by the Bill.

Shares, &c.

2. The amount of Shares subscribed for, and the Deposits paid thereon.

Names, &c., of Directors.

3. The Names and Places of Residence of the Directors or Provisional Committee, with the amount of Shares taken by each.

Local Shareholders.

4. The number of Shareholders who may be considered as having a local interest in the line, and the amount of Capital subscribed for by them.

Other parties, &c.

5. The number of other Parties, and the Capital taken by them.

Subscribers for 2,000*l.* and upwards.

6. The number of Shareholders subscribing for 2,000*l.* and upwards, with their Names and Residences, and the amount for which they have subscribed.

7. Whether

138.

This Order has been amended by omitting the words " in Great Britain " after " Railway " in line 3.

Proceedings of Committees on Bills

7. Whether any Report from the Commissioners of Railways in regard to the Bill, or the objects thereby proposed to be authorized, has been referred by the House to the Committee, and if so, whether any and what recommendations contained in such Report have been adopted by the Committee, and whether any and what recommendations contained in such Report have been rejected.

Whether Report from Railway Commissioners has been referred to Committee, &c.

8. What planes on the Railway are proposed to be worked by assistant engines, either stationary or locomotive, with the respective lengths and inclinations of such planes.

Assistant Engines.

9. Any peculiar engineering difficulties in the proposed line, and the manner in which it is intended they should be overcome.

Engineering difficulties.

10. The length, breadth, and height, and means of ventilation, of any proposed tunnels, and whether the strata through which they are to pass are favourable or otherwise.

Ventilation of Tunnels.

11. Whether in the lines proposed, the gradients and curves are generally favourable or otherwise, and the steepest gradient, exclusive of the inclined planes above referred to, and the smallest radius of a curve.

Gradients and Curves.

12. The length of the main line of the proposed Railway, and of its branches respectively, and on what gauge it is proposed to be constructed.

Length of Line.

13. Whether it be intended that the Railway should pass on a level any Turnpike Road or Highway, and if so, to call the particular attention of The House to that circumstance.

Passing Highways on a level.

14. The amount of the Estimates of the cost or other expenses to be incurred up to the time of the completion of the Railway, and whether they appear to be supported by evidence, and to be fully adequate for the purpose.

Estimates.

15. The number of assents, dissents and neuters upon the line, and the length and amount of Property belonging to each class traversed by the said Railway, distinguishing Owners from Occupiers; and in the case of any Bill to vary the original Line, the above particulars with reference to such Parties only as may be affected by the proposed deviation.

Assents, dissents and neuters.

16. The Name of each Engineer examined in support of the Bill, and of any examined in opposition to it.

Engineers examined.

17. The main allegations of every Petition which may have been referred to the Committee in opposition to the Preamble of the Bill, or to any of its Clauses; and whether the allegations have been considered by the Committee, and if not considered, the cause of their not having been so.

Petitions in opposition.

And the Committee shall also report generally as to the fitness, in an engineering point of view, of the projected line of Railway, and any circumstances which, in the opinion of the Committee, it is desirable The House should be informed of.

Fitness in an engineering point of view, and any other circumstances.

138.

It shall be an Instruction to the Committee on every Railway Bill providing for the construction of any new Railway, or for the extension of time for the completion of any Railway,

Instruction to Committees on Railway Bills.

Proceedings of Committees on Bills.

in case they shall find the Preamble thereof to be proved, to insert in the Bill one or other of the provisions following, that is to say:—

Clause to be inserted suspending Payment of Dividend until Line be opened.

In every Railway Bill promoted by an existing Railway Company, being possessed of a Railway already opened for public traffic, whereby the construction of any new line of Railway is authorized, or the time for completing any line already authorized is extended, a Clause providing that after the expiration of a period to be limited by such Bill, not exceeding Five Years from the passing of the Act, in the case of a new line, and Three Years in case of the extension of time for completing any line, the payment of any dividend on the ordinary and unguaranteed capital of such Company shall be suspended until such line shall have been completed and opened for public traffic.

Clause respecting Bond to be entered into for completion of Line.

In every Railway Bill promoted by an existing Railway Company, not being possessed of a Railway already opened for public traffic, or by persons not already incorporated, whereby the construction of any new line of Railway is authorized, a Clause to the following effect, viz.:—

Whereas, pursuant to the Standing Orders of both Houses of Parliament, and to an Act of the ninth and tenth years of Her present Majesty, c. 20, a sum of £.
being one-tenth part of three-fourths of the amount of the estimate of the expense of the Railway authorized by this Act, has been deposited with the Court of Chancery in England [or with the Court of Exchequer in Scotland, as the case may be], [or Exchequer Bills, Stocks or Funds to the amount of £.
, have been deposited or transferred pursuant to the said Act, as the case may be], in respect of the application to Parliament for this Act; Be it enacted, That, notwithstanding anything contained in the said recited Act, the said sum of £. [or the said Exchequer Bills or other Funds, as the case may be] so deposited [or transferred] as aforesaid, in respect of the application for this Act, or the interest or dividends of such sum of money [Exchequer Bills, Stocks or Funds], shall not, except upon the execution and deposit of such bond as hereinafter mentioned, be paid or transferred to or on the application of the person or persons, or the majority of the persons named in the warrant or order issued in pursuance of the said Act, or the survivors or survivor of them, unless the said Company shall, previously to the expiration of the period limited by this Act for completion of the Railway hereby authorized to be made, either open the said Railway for the public conveyance of passengers, or prove to the satisfaction of the Lords of the Committee of Her Majesty's Privy Council for Trade and Foreign Plantations that the said Company have paid up one-half of the amount of the capital by this Act authorized to be raised by means of shares, and have expended for the purposes of this Act a sum equal in amount to such one-half of the said capital; and if the said period shall expire before the said Company shall either have opened the said Railway for the public conveyance of passengers, or have given such proof as aforesaid to the satisfaction of the Lords of the said Committee, the said sum of money [Exchequer Bills, Stocks or Funds], deposited [or transferred] as aforesaid, and the interest

Proceedings of Committees on Bills.

interest and dividends thereof, shall immediately, from and after the expiration of the said period, be forfeited to Her Majesty, and be paid and transferred by the officer or person in whose name they shall then be deposited or invested, to the account of Her Majesty's Exchequer, and when so paid and transferred, shall be carried to and form part of the Consolidated Fund of the United Kingdom of Great Britain and Ireland: Provided, That at any time after the passing of this Act, if a bond in twice the amount of the said sum of £. shall have been executed by the said Company, with one or more sureties (such bond to be prepared to the satisfaction of, and such surety or sureties to be approved by, the Solicitor to the Lords Commissioners of Her Majesty's Treasury), conditioned for payment to Her Majesty, Her heirs or successors, of the said sum of £. , if the said Company shall not, within the time limited for the completion of the said Railway, either open the said Railway for the public conveyance of passengers, or prove to the satisfaction of the Lords of the said Committee that the said Company have paid up one-half of the amount of the said capital by this Act authorized to be raised by means of shares, and have expended for the purposes of this Act a sum equal in amount to such one-half of the said capital; and if such bond shall have been deposited with the said Solicitor to the said Lords Commissioners, then such sum of money [Exchequer Bills, Stocks or Funds], and the interest or dividends thereof, shall be paid [or transferred] to or on the application of the person or persons, or the majority of the persons, named in such warrant or order as aforesaid, or the survivors or survivor of them, and it shall not be necessary to produce any certificate of this Act having passed, anything in the said recited Act to the contrary notwithstanding; and the moneys to be recovered upon such bond shall be dealt with in like manner as the said sum of money [Exchequer Bills, Stocks or Funds], and the interest or dividends thereof, would have been dealt with under this Act if such bond had not been executed and deposited as aforesaid. And the certificate of the said solicitor to the said Lords Commissioners that such bond has been executed and deposited as aforesaid, and the certificate of the Lords of the said Committee that such proof has been given to their satisfaction as aforesaid, shall respectively be sufficient evidence of the facts so certified.

139.

Committee to fix the Tolls and Charges.

The Committee on every Railway Bill shall fix the Tolls, and shall determine the maximum rates of Charge for the conveyance of Passengers, with a due amount of Luggage and of Goods on such Railway, and such rates of Charge shall include the Tolls and the costs of locomotive power, and every other expense connected with the conveyance of Passengers, with a due amount of Luggage and of Goods upon such Railway; but if the Committee shall not deem it expedient to determine such maximum rates of Charge, a Special Report, explanatory of the grounds of their omitting so to do, shall be made to The House, which Special Report shall accompany the Report of the Bill.

140.

In Bills granting preference in payment of interest, &c., provision to be made that the same shall not prejudice former grants of preference, unless Committee report otherwise.

In every Railway Bill by which it is proposed to authorize the Company to grant any preference or priority in the payment of Interest or Dividends on any Shares or Stock, there shall be inserted a Clause providing that the granting of such preference or priority shall not prejudice or affect any preference or priority in the payment of Interest or Dividends on any other Shares or Stock which shall have been granted by the Company in pursuance of or which may have been confirmed by any previous Act of Parliament, or which may otherwise be lawfully subsisting, unless the Committee on the Bill shall report that such Provision ought not to be required, with the Reasons on which their opinion is founded.

141.

Company not to alter any preference previously granted.

No Railway Company shall be authorized to alter the terms of any preference or priority of Interest or Dividend which shall have been granted by such Company in pursuance of or which may have been confirmed by any previous Act of Parliament, or which may otherwise be lawfully subsisting, unless the Committee on the Bill report that such Alteration ought to be allowed, with the Reasons on which their opinion is founded, together with the number of Preference Shareholders who have assented to or dissented from such alteration.

142.

No powers of purchase in Bills for construction of a Railway.

No powers of Purchase, Sale, Lease or Amalgamation, shall be contained in any Bill for the construction of a Railway.

143.

No powers of purchase, &c. to be given, except after proof of certain matters before Board of Trade, &c.

No powers of purchase, sale, lease or amalgamation shall be given to any Railway Company, with reference to any other undertaking already authorized by any Act or Acts, nor to any other incorporated Company, with reference to any Railway, unless, previously to the application to Parliament for such purpose, the several Companies who may be parties to such purchase, sale, lease or amalgamation shall have proved, to the satisfaction of the Board of Trade, that they have respectively paid up One-half of the capital authorized to be raised by any previous Act or Acts by means of Shares, and have expended for the purposes of such Act or Acts a sum equal thereto; and in case such powers shall be applied for in respect of Works intended to be authorized by any Bill or Bills of the same Session, it shall be proved to the satisfaction of the Board of Trade that such Companies have respectively paid up one-half the amount of their capital, and that the Company proposed to be empowered to construct such Works have included in such amount the capital proposed to be authorized by such Bill or Bills; and that no such powers shall be given in respect of Works intended to be authorized by any Act or Acts for which it is intended to apply in any subsequent Session.

144. No

143.

This Order has been amended by substituting the words "Board of Trade" for "Commissioners of Railways" in lines 8 and 15.

Proceedings of Committees on Bills.

144.

No Railway Company shall be authorized, except for the execution of its original Line or Lines sanctioned by Act of Parliament, to guarantee interest on any shares which it may issue for creating additional Capital, or to guarantee any rent or dividend to any other Railway Company, until such first-mentioned Company shall have completed and opened for traffic such original Lines.

Railway Company not to guarantee interest or dividend before completion of Line.

145.

In Bills for the Amalgamation of Railway Companies, the amount of Capital created by such Amalgamation shall in no case exceed the sum of the Capitals of the Companies so amalgamated.

Limitation of Capital on amalgamation of Companies.

146.

In Bills for empowering any Railway Company to purchase any other Railway, no addition shall be authorized to be made to the Capital of the purchasing Company, beyond the amount of the Capital of the Railway purchased; and in case such Railway shall be purchased at a premium, no addition on account of such premium shall be made to the Capital of the purchasing Company.

Additional Capital of purchasing Company not to amount to more than Capital of Company purchased.

147.

A Clause shall be inserted in every Railway Bill, prohibiting the payment of any Interest or Dividend in respect of Calls under such Bill (except the Interest by way of Discount on Subscriptions prepaid, agreeably to 8 Vict. c. 16, s. 24), out of any Capital which they have been authorized to raise either by means of Calls, or of any power of borrowing.

Clause that no Interest or Dividend be paid on Calls.

148.

A Clause shall be inserted in every Railway Bill, prohibiting any Railway Company from paying, out of the Capital which they have been authorized to raise for the purposes of any existing Act, the Deposits required by the Standing Orders to be made for the purposes of any application to Parliament for a Bill for the construction of another Railway.

Clause as to Deposits not to be paid out of Capital.

149.

The following Clause shall be inserted in all Railway Bills passing through this House:

Clause as to Railway not to be exempt from any general Act.

And be it further Enacted, That nothing herein contained shall be deemed or construed to exempt the Railway by this or the said recited Acts authorized to be made from the provisions of any General Act relating to such Acts, or of any General Act relating to Railways now in force, or which may hereafter pass during this or any future Session of Parliament, or from any future revision and alteration, under the authority of Parliament, of the maximum rates of fares and charges authorized by this Act [or by the said recited Acts].

Proceedings of Committees on Bills.

Letters Patent.

150.

Copy of Letters Patent to be annexed to the Bill.

When any Bill shall be brought into The House for confirming of Letters Patent, there shall be a true Copy of such Letters Patent annexed to the Bill.

Inclosure and Drainage Bills.

151.

Notices and Allegations.

In the case of any Bill for inclosing Lands, the Committee may admit proof of the Notices required by the Standing Orders, and of the Allegations in the Preamble of such Bill, by Affidavit taken and authenticated, according to the form prescribed in the Gen. Inc Act. Schedule to the General Inclosure Act (41 Geo. III. c. 109,) unless such Committee shall otherwise order.

152.

Consent Bill and Statement of Property to be delivered in.

The Committee on every Bill for inclosing Lands shall in the first place require the Agent for the same to deliver in to the Committee a printed copy of the Bill, signed by the Lord of the Manor (in cases where the Lord of the Manor has any interest as such in the lands to be inclosed), and by such Owners of Property within the Parish to which the Bill relates as shall have assented thereto; but the Parties, if they shall think fit, shall be permitted to deliver in different copies of the Bill, separately signed by the several Parties hereinbefore mentioned, instead of one copy, signed by all of them collectively; together with a List of all the Owners of Property within such Parish, showing the value according to the Poor Rate or Land Tax Assessment of each Owner's Property therein, and distinguishing which of them have assented, dissented, or are neuter in respect thereto.

153.

Consent Bill and Statement of Property to be delivered in.

The Committee on every Bill for draining Lands shall in the first place require the Agent for the same to deliver in to the Committee a printed copy of the Bill, signed by such Owners and Occupiers of Property within the Parish to which the Bill relates as shall have assented thereto; but the Parties, if they shall think fit, shall be permitted to deliver in different copies of the Bill, separately signed by the several Parties hereinbefore mentioned, instead of one copy, signed by all of them collectively; together with a List of all the Owners of Property within such Parish, showing the value according to the Poor Rate or Land Tax Assessment of each Owner's Property therein, and distinguishing which of them have assented, dissented, or are neuter in respect thereto.

154.

Clause for leaving open Space for exercise and recreation.

In every Bill for inclosing Lands, provision shall be made for leaving an open space in the most appropriate situation, sufficient for purposes of exercise and recreation of the neighbouring population; and the Committee on the Bill shall have before them the number of acres proposed to be inclosed, as also

Proceedings of Committees on Bills.

also of the population in the parishes or places in which the land to be inclosed is situate; and also shall see that provision is made for the efficient fencing of the allotment, for the investment of the same in the Churchwardens and Overseers of the parish in which such open space is reserved, and for the efficient making and permanent maintenance of the fences by such parish; and in any case where the information hereby required is not given, and the required provisions are not made in the Bill, the Committee on the same shall report specially to The House the reasons for not complying with such Order.

155.

Consent Bill to contain Names of Commissioners, and Compensations for Manorial Rights, Tithes and Enfranchisements.

In every Bill for inclosing Lands, the Names of the Commissioners proposed to be appointed, and the Compensation intended for the Lord of the Manor, and the Owners of Tithes, in lieu of their respective Rights, and also the Compensation intended to be made for the enfranchisement of Copyholds, where any Bargains or Agreements have been made for such Compensations, shall be inserted in the copy of the Bill presented to The House: And all copies of such Bills which shall be sent to any of the Persons interested in the said Manor, Tithes, Lands or Commons, for their Consent, shall contain the Names of such proposed Commissioners, and also the Compensations so bargained or agreed for.

156.

Disqualification of certain Persons as Commissioners, Surveyors, &c.

No Person shall be named in any Bill for inclosing Lands as a Commissioner, Umpire, Surveyor or Valuer, who shall be interested in the Inclosure to be made by virtue of such Bill; or the Agent ordinarily intrusted with the care, superintendence, or management of the Estate of any Person so interested.

157.

Clause for settling Pay of Commissioners, and passing their Accounts.

In every Bill for inclosing, draining or improving Lands there shall be inserted a Clause, providing what sum of Money in the whole, or by the day, shall be paid to each of the Commissioners to be appointed by such Bill, in satisfaction of the expense and trouble which he shall incur in the execution of the powers thereby given; and also a Clause, providing that the Account of such Commissioner or Commissioners, containing a true statement of all Sums by him or them received and expended or due to him or them for their own trouble or expenses, shall, at least once in every year, from the date of the passing of the Act till such Accounts shall be finally allowed, together with the Vouchers relating to the same, be examined by some Person or Persons to be appointed by the Bill, and the Balance by him or them stated in the Book of Accounts required to be kept in the Office of the Clerk of such Commissioners; and that no charge or item in such Accounts shall be binding on the Parties concerned, or be valid in law, unless the same shall be duly allowed by such Person or Persons.

Turnpike Roads (Ireland).

158.

Clause for Qualification of Commissioners.

In every Bill for making a Turnpike Road in Ireland, or for the continuing or amending any Act passed for that purpose,

PROCEEDINGS OF SELECT COMMITTEE ON DIVORCE BILLS.

159.

What Evidence to be given in Divorce Cases.

The Select Committee on Divorce Bills shall require evidence to be given before them that an action for damages has been brought in one of Her Majesty's Courts of Record at Westminster, or in one of Her Majesty's Courts of Record in Dublin, or in one of Her Majesty's Supreme Courts of Judicature of the Presidencies of Calcutta, Madras, Bombay or the Island of Ceylon, respectively, against the persons supposed to have been guilty of Adultery, and judgment for the plaintiff had thereupon; or sufficient cause to be shown to the satisfaction of the said Committee why such action was not brought, or such judgment was not obtained.

160.

When Petitioner for Bill to attend Committee.

The Select Committee on Divorce Bills shall, in all cases in which the Petitioner for the Bill has attended the House of Lords upon the Second Reading of the Bill, require him to attend before them to answer any questions they may think fit that he should answer.

161.

Committee to report Bill in all cases.

The Select Committee on Divorce Bill shall report every such Bill to The House, whether such Committee shall or shall not have agreed to the Preamble, or gone through the several Clauses, or any of them.

V.

THE ORDERS REGULATING THE PRACTICE OF THE HOUSE WITH REGARD TO PRIVATE BILLS.

164.

This Order has been amended in conformity with Order of the House, 22d March 1854.

Practice of the House.

V.

THE ORDERS REGULATING THE PRACTICE OF THE HOUSE WITH REGARD TO PRIVATE BILLS.

162.

Petition for Bill, and how to be signed.

No Private Bill shall be brought into this House, but upon a Petition first presented, which shall have been duly deposited in the Private Bill Office, and indorsed by one of the Examiners, with a printed copy of the proposed Bill annexed: And such Petition shall be signed by the Parties, or some of them, who are Suitors for the Bill.

163.

Petitions, when to be presented.

All Petitions for Private Bills shall be presented to the House not later than Three clear Days after the same shall have been indorsed by the Examiner, or if, when the same is indorsed, the House shall not be sitting, then not later than Three clear Days after the First sitting thereof subsequent to such indorsement; and if the House shall not be sitting on the latest day on which any Petition ought to be presented, then the same shall be presented on the first day on which the House shall again sit.

164.

Bill, when to be presented.

No Private Bill shall be read a First Time unless it be presented not later than Three clear Days after the presentation of the Petition for leave to bring in the same; or where the Petition has been referred to the Select Committee on Standing Orders, then not later than Three clear Days after the House shall have given leave to the Parties to proceed with the Bill.

165.

Petition for additional Provision.

No Petition for additional Provision in any Private Bill will be received by this House, unless a Copy of the proposed Clauses be annexed thereto.

166.

Petitions for additional Provision and Estate Bills from Lords, &c. to be referred to Examiner of Petitions.

All Petitions for additional Provision in Private Bills, with the proposed Clauses annexed, and all Estate Bills brought from the House of Lords, and all Bills introduced by leave of The House in lieu of other Bills which shall have been withdrawn, after having been read a First Time, shall be referred to the Examiner of Petitions for Private Bills.

167.

Reports of Examiner to be referred to Committee on Standing Orders.

All Reports of the Examiner of Petitions for Private Bills, in which he shall report that the Standing Orders have not been complied with, and all Special Reports of the said Examiner, shall be referred to the Select Committee on Standing Orders.

168.

Petitions for Dispensation, &c. to be referred to Committee on Standing Orders.

All Petitions praying that any of the Sessional or Standing Orders of The House relating to Private Bills may be dispensed with, and all Petitions for the re-insertion of Petitions for Private Bills in the General List of Petitions, and all Petitions opposing the same, shall be presented to this House by depositing the same in the Private Bill Office; and every such Petition, so deposited, shall stand referred to the Select Committee on Standing Orders.

169.

Printed Bill to be presented.

Every Private Bill, printed on paper, of a size to be determined upon by Mr. Speaker, shall be presented to The House, with a Cover of Parchment attached to it, upon which the Title of the Bill is to be written; and the short Title of the Bill, as first entered on the Votes, shall correspond with that at the head of the Advertisement, and shall not be changed unless by special order of The House.

170.

Rates, Tolls and other Matters to be inserted in *Italics*.

The proposed amount of all Rates, Tolls, and other matters heretofore left blank in any Private Bill when presented to The House, shall be inserted in *Italics* in the printed Bill annexed to the Petition.

171.

What Bills to be printed, and when.

Every Private Bill (except Name Bills) shall be printed; and printed copies thereof delivered to the door-keepers for the use of the Members before the First Reading.

172.

Time between First and Second Reading.

There shall be not less than *Three* clear *days*, nor more than *Ten*, between the First and Second Reading of any Private Bill, except by Special Order of The House.

173.

Petition relating to Bills to be presented to House by being deposited in the Private Bill Office, and Name of Bill to be indorsed on every Petition.

Every Petition in favour of or against any Private Bill before The House, or otherwise relating thereto (not being a Petition for additional Provision), shall be presented to this House, by depositing the same in the Private Bill Office, and there shall be indorsed thereon the name or short Title by which such Bill is entered in the Votes, and a Statement that such Petition is in favour of, or against the Bill, or otherwise, as the case may be, together with the name of the Member, Party or Agent depositing the same.

174.

Petitioner or Memorialist may withdraw Petition or Memorial.

Any Petitioner or Memorialist may withdraw his Petition or Memorial, on a requisition to that effect being deposited in the Private Bill Office, signed by him or by the Agent who deposited such Petition or Memorial; and where any such Petition

173.

This Order has been amended by inserting after the word " House," in line 2, " or otherwise relating thereto (not being a Petition for additional Provision)"; and inserting the words " or otherwise " after " Bill " in line 6.

Practice of the House.

Petition or Memorial is signed by more than one person, any person signing such Petition or Memorial may withdraw his opposition by a similar requisition, signed and deposited as aforesaid.

175.

In cases where the Second or Third Reading of a Private Bill, or the consideration of a Bill as amended by the Committee, is opposed, the consideration thereof shall be postponed until the day on which the House shall next sit.

When Second or Third Reading opposed to be postponed.

176.

Every Private Bill, after having been read a Second time and committed, shall be referred, if not a Railway, Canal or Divorce Bill, to the Committee of Selection; if a Railway or Canal Bill, to the General Committee on Railway and Canal Bills; and if a Divorce Bill, to the Select Committee on Divorce Bills.

Bills referred to Committee of Selection and other Committees.

177.

When The House shall have been informed by the Chairman of Ways and Means, that in his opinion any unopposed Private Bill should be treated as an opposed Bill, such Bill shall be again referred to the Committee of Selection; or in the case of a Railway or Canal Bill, to the General Committee on Railway and Canal Bills.

When unopposed Bill is to be treated as opposed, to be again referred to Committee of Selection or General Committee.

178.

Every Petition against a Private Bill which shall have been deposited in the Private Bill Office either previous to, or not later than Seven clear days after, the Second Reading of such Bill, or which shall have been otherwise deposited under the provisions of Standing Order 112, shall stand referred to the Committee on such Bill; and, subject to the Rules and Orders of this House, such Petitioners as shall have prayed to be heard, by themselves, their Counsel or Agents, shall be heard upon their Petition accordingly, if they think fit, and Counsel heard, in favour of the Bill, against such Petition.

Petition against Bill, if duly deposited in Private Bill Office, to stand referred to Committee on Bill, &c.

179.

There shall be *Fourteen* clear *Days* between the Second Reading of every Private Bill and the sitting of the Committee thereupon, except in the case of Divorce Bills, in respect of which there shall be Eight clear days, and of Name Bills and Estate Bills, (not being Bills relating to Crown, Church or Corporation property, or property held in trust for Public or Charitable purposes), in respect of which there shall be Three clear days between the Second Reading and the Committee.

Time between Second Reading and Committee.

180.

In the case of Railway Bills, if any Report made under the authority of the Railway Department of the Board of Trade upon any Bill, or the objects thereof, be laid before the House, such Report shall be referred to the Committee on the Bill.

Report of Railway Department to be referred to Committee on Bill.

181.

Report to lie on Table with Bill, or Bill to be ordered to be read a Third time.

The Report upon every Private Bill shall lie upon the Table; and the Bill, if not amended in Committee, and not a Railway Bill, shall be ordered to be read a Third time; and every other Bill shall be ordered to lie upon the Table.

182.

Bill to be printed after report.

Every Private Bill, as amended in Committee, shall be printed at the expense of the Parties applying for the same, and delivered to the Door-keepers for the use of the Members, *Three* clear *days* at least before the consideration of such Bill.

183.

No Clause or Amendment on consideration of Bill, or on Third Reading, to be offered, unless Chairman of Ways and Means shall have informed The House, &c.

No Clause or Amendment shall be offered in The House on the consideration of any Private Bill ordered to lie upon the Table, or on the Third Reading of any Private Bill, unless the Chairman of the Committee of Ways and Means shall have informed The House, or signified in writing to Mr. Speaker, whether, in his opinion, such Clause or Amendment be such as ought or ought not to be entertained by The House, without referring the same to the Select Committee on Standing Orders.

184.

Clauses and Amendments offered on consideration of Bill or Third Reading, to be printed.

When any Clause or Amendment is offered on the consideration of any Private Bill ordered to lie upon the Table, or on the Third Reading of any Private Bill, such Clause or Amendment shall be printed at the expense of the parties: And when any Clause is proposed to be amended, it shall be printed *in extenso*, with every addition or substitution in different type, and the omissions therefrom included in brackets and underlined.

185.

When referred, no further proceeding to be had until Report of Select Committee on Standing Orders.

When any Clause or Amendment on the consideration of any Private Bill ordered to lie upon the Table, or on the Third Reading of any Private Bill, shall have been referred to the Select Committee on Standing Orders, no further proceeding on either of such stages shall be had until the Report of the said Select Committee shall have been brought up.

186.

Time between Report and Consideration of Bill, &c.

In the case of Private Bills ordered to lie upon the Table, Three clear days shall intervene between the Report and the consideration of the Bill, and no consideration of any such Bill shall take place, unless the Chairman of the Committee of Ways and Means shall have informed The House, or signified in writing to Mr. Speaker, whether the Bill contain the several provisions required by the Standing Orders.

187.

Lords' Amendments to be printed and circulated with the Votes prior to consideration, &c.

All Amendments made by the House of Lords to any Private Bill shall be printed at the expense of the parties, and circulated with the Votes, prior to such Amendments being taken into

181.

This Order has been verbally amended.

Practice of the House.

into consideration; and where any Clause has been amended, it shall be printed *in extenso*, with every addition or substitution in different type, and the omissions therefrom included in brackets and underlined; and when any Amendments are intended to be proposed to the Lords' Amendments, such proposed Amendments shall also be printed in like manner.

188.

Notice of Committee to inspect Lords' Journals to be given to Committee Clerks.

In all cases where it is intended to appoint a Committee to inspect the Journals of the House of Lords with relation to any proceedings upon any Private Bill, previous notice thereof in writing shall be given by the Agent to the Clerks in the Committee Office.

189.

Bill not to proceed two stages on same day.

No Private Bill shall pass through two stages on one and the same day without the special leave of The House.

190.

Notice to be given of motion for dispensation.

Except in cases of urgent and pressing necessity, no Motion shall be made to dispense with any Sessional or Standing Order of The House without due notice thereof.

191.

Order of Proceedings in House on Private Business.

Each day, so soon as The House shall be ready to proceed to Private Business, the Clerk at the Table shall read from the Private Business List the Titles of the several Bills set down therein, according to their precedence, as arranged under the following heads:—

1. Consideration of Lords' Amendments;
2. Third Reading;
3. Consideration of Bills ordered to lie upon the Table;
4. Second Reading;

and if upon the reading of each such Title, as aforesaid, no Motion shall be made with respect to such Private Bill, the further proceedings thereon shall be adjourned until the next sitting of The House.

VI.

THE ORDERS REGULATING THE PRACTICE IN THE PRIVATE BILL OFFICE.

Practice in the Private Bill Office.

VI.

THE ORDERS REGULATING THE PRACTICE IN THE PRIVATE BILL OFFICE.

192.

Private Bill Office and Register.

A Book, to be called "THE PRIVATE BILL REGISTER," shall be kept in a Room, to be called "THE PRIVATE BILL OFFICE," in which Book shall be entered by the Clerks appointed for the business of that Office, the Name, Description and Place of Residence of the Parliamentary Agent in Town, and of the Agent in the Country (if any) soliciting the Bill; and all the Proceedings, from the Petition to the passing of the Bill:—Such Entry to specify, briefly, each day's Proceeding before the Examiners of Petitions respectively, or in The House, or in any Committee to which the Bill may be referred; the day and hour on which the Examiner or the Committee is appointed to sit; the day and hour to which the Proceedings before such Examiners or Committee may be adjourned, and the name of the Clerk attending the same. Such Book to be open to public inspection daily, in the said Office, between the hours of Ten and Six.

193.

Receipt of Plans, &c. to be acknowledged.

The receipt of all Plans, Sections, Books of Reference, Lists of Owners and Occupiers, Estimates, Copies of the Subscription Contracts, and Declarations required by the Standing Orders of The House to be lodged in the Private Bill Office, shall be acknowledged by one of the Clerks of the said Office, upon the said Documents, and upon the Petition for the Bill, when deposited.

194.

List of Petitions to be kept.

A List of all Petitions for Private Bills shall be kept in the Private Bill Office in the order of their deposit, according to such regulations as shall have been made by Mr. Speaker, which shall be called the "General List of Petitions," and each Petition therein shall be numbered.

195.

Memorials when to be deposited.

All Memorials complaining of non-compliance with the Standing Orders, in reference to Petitions for Bills deposited in the Private Bill Office on or before the 31st December, shall be deposited as follows:

If the same relate to Petitions for Bills numbered in the General List of Petitions;

From

1 to 100 101 to 200 201 and upwards	They shall be deposited on or before - - -	January 17th. „ 24th. „ 31st.

And in the case of any Petitions for Bills which may be deposited by leave of The House after the 31st December, such Memorials shall be deposited Three clear Days before the day first appointed for the examination of the Petition.

196.

Deposit of Memorials and Copies thereof in Private Bill Office.

All Memorials shall be deposited in the Private Bill Office before Six of the clock in the evening of any day on which The House shall sit, and before Two of the clock on any day on which The House shall not sit; and Two copies of every such Memorial shall be deposited for the use of the Examiners before Twelve of the clock on the following day.

197.

Time for depositing Memorials in certain cases, &c.

Every Memorial complaining of non-compliance with the Standing Orders of The House in reference to Petitions for additional provision in Private Bills, to Estate Bills brought from the House of Lords, and to Bills introduced by leave of this House in lieu of other Bills which shall have been withdrawn, and referred to the Examiners of Petitions for Private Bills, shall be deposited in the Private Bill Office, together with Two Copies thereof, before Twelve o'clock on the day preceding that appointed for the examination of any such Petition or Bill by the Examiner; and the Examiner shall be at liberty to entertain such Memorial, although the party (if any) who may be specially affected by the non-compliance with the Standing Orders shall not have signed the same.

198.

Seven clear Days' notice to be given of Examination of Petitions.

One of the Examiners shall give at least *Seven* clear days' notice in the Private Bill Office of the day appointed for the examination of each Petition for a Bill.

199.

Examination Book.

After each Private Bill has been read the First time, its Name (or short Title) shall be copied by the Clerks of the Private Bill Office, from the Clerk's Minute Book of the day, into a separate Book, to be called "THE EXAMINATION BOOK;"—wherein shall be noted the number of such Bill, according to the priority of its being read, and the date of the day of such First Reading.

200.

Custody of Bills.

Every Private Bill, after it has been read the First time and the Title copied and examined for the Votes, shall be in the custody of the Clerks of the Private Bill Office, until laid upon the Table for the Second Reading; and when committed, shall be taken by the proper Committee Clerk into his charge, till reported.

201. Between

Practice in the Private Bill Office.

201.

Examination of Bills.

Between the First and Second Reading of every Private Bill, every such Bill shall, according to its priority, be examined, with all practicable despatch, by the Clerks of the Private Bill Office, as to its conformity with the Rules and Standing Orders of The House; and if *not* in due form, the Examining Clerk shall specify thereon the page in which any irregularity occurs, and shall enter the day of such Examination, together with his own Name, in the Examination Book.

202.

Notice of Second Reading.

Three clear *days'* Notice in writing shall be given by the Agent for the Bill, to the Clerks in the Private Bill Office, of the day proposed for the Second Reading of every Private Bill; and no such Notice shall be given until the day after that on which the Bill has been read a first time.

203.

Notice of Committees.

Except in the case of Name Bills, and Estate Bills as described in Order 179, and except in the case of Bills referred back to the Committee of Selection as unopposed, *Seven* clear days' notice shall be given by the Clerk to the Committee of Selection, or by the Clerk to the General Committee on Railway and Canal Bills, to the Clerks in the Private Bill Office of the day and hour appointed for the meeting of the Committee on every Private Bill that shall have been referred to such Committees respectively:—and in the case of such Name Bills and Estate Bills, there shall be One clear day's notice given of Committee by the Clerk to the Committee of Selection:—and in the case of Bills not referred to the Committee of Selection, *Seven* clear days' notice, and, in the case of a re-committed Bill, *Three* clear days' notice, shall be given by the Agents for the Bill to the Clerks in the Private Bill Office of the day and hour appointed for the meeting of the Committee on every Private Bill, and all the proceedings of any Committee of which such notice shall not have been given, shall be void.

204.

Filled-up Bill to be deposited in Private Bill Office.

A filled-up Bill, signed by the Agent for the Bill, as proposed to be submitted to the Committee on the Bill, and in the case of a re-committed Bill, a filled-up Bill, as proposed to be submitted to the Committee on re-committal, shall be deposited in the Private Bill Office one clear day before the meeting of the Committee on every Private Bill; and all Parties shall be entitled to a Copy thereof, upon payment of the Charges for making out Amendments of such Bill.

205.

Notice of Postponement.

Notice in writing shall be given by the Clerk to the Committee of Selection, or by the Clerk to the General Committee on Railway and Canal Bills, to the Clerks in the Private Bill Office, of the postponement of the first meeting of any Committee on a Private Bill or Sub-Committee on a Railway and Canal Bill, which shall have been referred to such Committees respectively, on the day on which such postponement is made; and in the case of

Practice in the Private Bill Office.

Bills not referred to the Committee of Selection or the General Committee on Railway and Canal Bills, *One* clear day's notice shall be given by the Agents for the Bill, and, in the case of Divorce Bills, either by the Agents or by the Clerk to the Select Committee on Divorce Bills, to the Clerks in the Private Bill Office of such postponement.

206.

Notice of Adjournment.

Notice, in writing, shall be given by the Committee Clerk to the Clerks in the Private Bill Office, of the day and hour to which each Committee is adjourned.

207.

Notice of consideration of Bill.

One clear *day's* Notice, in writing, shall be given by the Agent for the Bill, to the Clerks in the Private Bill Office, of the day proposed for the consideration of every Private Bill ordered to lie upon the Table.

208.

Bill as amended in Committee to be delivered in.

The Committee Clerk, after the Report is made out, shall deliver in to the Private Bill Office a printed Copy of the Bill, with the written Amendments made in the Committee; in which Bill, all the Clauses added by the Committee shall be regularly marked in those parts of the Bill wherein they are to be inserted.

209.

Notice to be given of Clauses, &c. on consideration of Bill, or Third Reading.

When it is intended to bring up any Clause or to propose any Amendment on the consideration of any Private Bill ordered to lie upon the Table, or on the Third Reading of any Private Bill, Notice shall be given thereof, in the Private Bill Office, One clear day previous to such consideration or Third Reading.

210.

Notice of Third Reading.

One clear *day's* Notice, in writing, shall be given by the Agent for the Bill, to the Clerks in the Private Bill Office, of the day proposed for the *Third Reading* of every Private Bill; and no such Notice shall be given until the day after that on which the Bill shall have been ordered to be read a Third time.

211.

Amendments on consideration of Bill and Third Reading.

The Amendments (if any which are made on the consideration of any Private Bill ordered to lie upon the Table, and on the Third Reading of any Private Bill, and also such Amendments made by the House of Lords as shall have been agreed to by this House, shall be entered by one of the Clerks in the Private Bill Office, upon the printed Copy of the Bill as amended in Committee; which Clerk shall sign the said Copy so amended, in order to its being deposited and preserved in the said Office.

Practice in the Private Bill Office.

212.

Private Bills sent to The Lords to be endorsed with Certificate of Examination.

No Private Bill shall be sent to The Lords until a Certificate is endorsed upon the fair printed Bill, and signed by one or more of the proper Officers for that purpose, declaring that such printed Bill has been examined, and agrees with the Bill as read a third time.

213.

Notice of consideration of Lords' Amendments.

When Amendments made by the House of Lords to any Private Bill are to be taken into consideration, One clear day's Notice shall be given thereof in the Private Bill Office, and if any Amendments be intended to be proposed thereto, a copy of such Amendments shall also be deposited, and Notice given thereof, One clear day previous to the same being proposed to be taken into consideration; and no such Notice shall be given until the day after that on which such Bill shall have been returned from the House of Lords.

214.

Time for delivering Notices.

All *Notices* required to be given or deposits to be made in the Private Bill Office shall be delivered in the said Office before *Six* of the clock in the *Evening* of any day on which The House shall sit, and before *Two* of the clock on any day on which The House shall not sit; and after any day on which The House shall have adjourned beyond the following day, no Notice shall be given for the first day on which it shall again sit.

215.

Daily Lists of Committees sitting.

The Clerks in the Private Bill Office shall prepare, daily, Lists of all Private Bills, and Petitions for Private Bills upon which any Committee or Examiner is appointed to sit; specifying the hour of meeting, and the Room where the Committee or Examiner shall sit; and the same shall be hung up in the Lobby of The House.

216.

Plans to be verified as Mr. Speaker shall direct.

Every Plan, and Book of Reference thereto, which shall be certified by The Speaker of the House of Commons, in pursuance of any Act of Parliament, shall previously be ascertained, and verified in such manner as shall be deemed most advisable by The Speaker, to be exactly conformable in all respects to the Plan and Book of Reference which shall have been signed by the Chairman of the Committee upon the Bill.

Appendix (A.)

[Form referred to in Page 15.]

No. ——

Sir,

We beg to inform you, that Application is intended to be made to Parliament in the ensuing Session for "An Act" [*here insert the Title of the Act*], and that the Property mentioned in the annexed Schedule, or some Part thereof, in which we understand you are interested as therein stated, will be required for the Purposes of the said Undertaking, according to the Line thereof as at present laid out, or may be required to be taken under the usual Powers of Deviation to the Extent of Yards on either side of the said Line which will be applied for in the said Act, and will be passed through in the Manner mentioned in such Schedule.

We also beg to inform you, that a Plan and Section of the said Undertaking, with a Book of Reference thereto, have been or will be deposited with the [*several Clerks of the Peace, or principal Sheriff Clerks, as the case may be*] of the Counties of [*specify the Counties in which the Property is situate*], on or before the 30th of November, and that Copies of so much of the said Plan and Section as relates to the [*Parish or extra-parochial place, as the case may be*], in which your Property is situate, with a Book of Reference thereto, have been or will be deposited for public Inspection with the [*Clerk of the said Parish, Clerk of the Parish of adjoining to such extra-parochial place, Schoolmaster of the Parish, Session Clerk, Town Clerk of the Royal Burgh, or the Clerk of the Union in which such Parish is included, as the case may be*], on or before the 30th day of November, on which Plans your Property is designated by the Numbers set forth in the annexed Schedule.

As we are required to report to Parliament whether you assent to or dissent from the proposed Undertaking, or whether you are neuter in respect thereto, you will oblige us by writing your Answer of Assent, Dissent or Neutrality in the Form left herewith, and returning the same to us with your Signature on or before the day of next; and if there should be any Error or Misdescription in the annexed Schedule, we shall feel obliged by your informing us thereof, at your earliest convenience, that we may correct the same without delay.

We are, Sir,
Your most obedient servants,

To

Note.—If the Application be forwarded by Post, the words "Parliamentary Notice" are to be printed or written on the cover.

SCHEDULE referred to in the foregoing Notice, describing the Property therein alluded to, and the Manner in which the Line of the proposed Work, as delineated upon the Plan and Section, will affect the same.

—	Parish, Township, Townland or Extra-parochial Place.	Number on Plans.	Description.	Owner.	Lessee.	Occupier.	Description of the Section of the Line deposited, showing the greatest Height of Embankment, and Depth of Cutting where the Property is intersected by the centre line of the proposed Work.
Property in the Line of the proposed Work, as at present laid out (including Property any part of which is within Eleven yards, or thereabouts, of the centre line of such proposed Work, as delineated upon the Plan).							

—	Parish, Township, Townland, or Extra-parochial Place.	Number on Plans.	Description.	Owner.	Lessee.	Occupier.
Property within the Limits of the Deviation intended to be applied for.						

Note.—Where the Property is not intersected by the centre Line, the description of the Section is not given in the last column.

Appendix (B.)

ANNO PRIMO VICTORIÆ REGINÆ.

Cap. LXXXIII.

AN ACT to compel Clerks of the Peace for Counties and other Persons to take the Custody of such Documents as shall be directed to be deposited with them under the Standing Orders of either House of Parliament.

WHEREAS the Houses of Parliament are in the habit of requiring that, previous to the introduction of any Bill into Parliament for making certain bridges, turnpike-roads, cuts, canals, reservoirs, aqueducts, waterworks, navigations, tunnels, archways, railways, piers, ports, harbours, ferries, docks and other works, to be made under the authority of Parliament, certain maps or plans and sections, and books and writings, or extracts or copies of or from certain maps, plans or sections, books and writings, shall be deposited in the office of the clerk of the peace for every county, riding or division in England or Ireland, or in the office of the sheriff clerk of every county in Scotland, in which such work is proposed to be made, and also with the parish clerk in every parish in England, the schoolmaster of every parish of Scotland, or in Royal Burghs with the town clerk, and the postmaster of the post town in or nearest to every parish in Ireland, in which such work is intended to be made, and with other persons: And whereas it is expedient that such maps, plans, sections, books, writings and copies or extracts of and from the same, should be received by the said clerks of the peace, sheriff clerks, parish clerks, schoolmasters, town clerks, postmasters and other persons, and should remain in their custody for the purposes hereinafter mentioned; BE it therefore Enacted by The Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, That whenever either of the Houses of Parliament shall by its Standing Orders, already made or hereafter to be made, require that any such maps, plans, sections, books or writings, or extracts or copies of the same, or any of them, shall be deposited as aforesaid, such maps, plans, sections, books, writings, copies and extracts shall be received by and shall remain with the clerks of the peace, sheriff clerks, parish clerks, schoolmasters, town clerks, postmasters and other persons with whom the same shall be directed by such Standing Orders to be deposited, and they are hereby respectively directed to receive and to retain the custody of all such documents and writings so directed to be deposited with them respectively, in the manner and for the purposes and under the rules and regulations concerning the same respectively directed by such Standing Orders, and shall make such memorials and endorsements on and give such acknowledgments and receipts in respect of the same respectively as shall be thereby directed.

Clerks of the Peace, &c. to receive the Documents herein mentioned, and retain them for the purposes directed by the Standing Orders of the Houses of Parliament.

II. And be it further Enacted, That all persons interested shall have liberty to, and the said clerks of the peace, sheriff clerks, parish clerks, schoolmasters, town clerks and postmasters, and every of them, are and is hereby required, at all reasonable hours of the day, to permit all persons interested to inspect during a reasonable time and make extracts from or copies of the said maps, plans, sections, books, writings, extracts and copies of or from the same, so deposited with them respectively, on payment by each person to the clerk of the peace, sheriff clerk, clerk of the parish, schoolmaster, town clerk or postmaster having the custody of any such map, plan, section, book, writing, extract or copy, One Shilling for every such inspection, and the further sum of One Shilling for every hour during which such inspection shall continue after the first hour, and after the rate of Sixpence for every One hundred words copied therefrom.

Clerks of the Peace, &c. to permit such Documents to be inspected or copied by persons interested.

III. And be it further Enacted, That in case any clerk of the peace, sheriff clerk, parish clerk, schoolmaster, town clerk, postmaster or other person, shall in any matter or thing refuse or neglect to comply with any of the provisions hereinbefore contained, every clerk of the peace, sheriff clerk, parish clerk, schoolmaster, town clerk, postmaster or other person shall for every such offence forfeit and pay any sum not exceeding the sum of Five Pounds; and every such penalty shall, upon proof of the offence before any Justice of the Peace for the county within which such offence shall be committed, or by the confession of the party offending, or by the oath of any credible witness, be levied and recovered, together with the costs of the proceedings for the recovery thereof, by distress and sale of the goods and effects of the party offending, by warrant under the hand of such Justice, which warrant such Justice is hereby empowered to grant, and shall be paid to the person or persons making such complaint; and it shall be lawful for any such Justice of the Peace to whom any complaint shall be made of any offence committed against this Act to summon the party complained of before him, and on such summons to hear and determine the matter of such complaint in a summary way, and on proof of the offence to convict the offender, and to adjudge him to pay the penalty or forfeiture incurred, and to proceed to recover the same, although no information in writing or in print shall have been exhibited or taken by or before such Justice; and all such proceedings by summons without information shall be as good, valid and effectual to all intents and purposes as if an information in writing had been exhibited.

Clerks of the Peace, &c. for every omission to comply with the provisions of this Act, liable to the Penalty of 5 *l.*, to be recovered in a summary way.

Appendix (C.)

ANNO NONO VICTORIÆ REGINÆ.

Cap. XX.

AN ACT to amend an Act of the Second Year of Her present Majesty, for providing for the Custody of certain Monies paid in pursuance of the Standing Orders of either House of Parliament by Subscribers to Works or Undertakings to be effected under the Authority of Parliament.

1 & 2 Vict. c. 117.

WHEREAS an Act was passed in the second year of the reign of Her present Majesty Queen Victoria, intituled, "An Act to provide for the Custody of certain Monies paid in pursuance of the Standing Orders of either House of Parliament, by Subscribers to Works or Undertakings to be effected under the Authority of Parliament:" And whereas it is expedient that the said Act should be repealed and should be re-enacted, with such modifications, extensions and alterations as after mentioned: BE it therefore Enacted, by The Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, That the said Act shall be and is hereby repealed: Provided always, That all acts done under the provisions of the said Act shall be good, valid and effectual to all intents and purposes, and that all sums of money paid under the provisions of the said Act shall be dealt with in all respects as if this Act had not been passed.

Recited Act repealed. Monies already paid in to be dealt with as directed by former Act.

Authority to deposit.

II. And be it Enacted, That in all cases in which any sum of money is required by any Standing Order of either House of Parliament, either now in force or hereafter to be in force, to be deposited by the subscribers to any work or undertaking which is to be executed under the authority of an Act of Parliament, if the director or person or directors or persons having the management of the affairs of such work or undertaking, not exceeding Five in number, shall apply to one of the Clerks in the office of the Clerk of the Parliaments with respect to any such money required by any Standing Order of the Lords Spiritual and Temporal in Parliament assembled, or to one of the Clerks of the Private Bill Office of the House of Commons with respect to any such money required by any Standing Order of the Commons in Parliament assembled, to be deposited, it shall be lawful for the Clerk so applied to, by warrant or order under his hand, to direct that such sum of money shall be paid in manner hereinafter mentioned; (that is to say) into the Bank of England in the name and with the privity of the Accountant-general of the Court of Chancery in England, if the work or undertaking in respect of which the sum of money is required to be deposited is intended to be executed in that part of the United Kingdom called England; or into any of the Banks in Scotland established by Act of Parliament or Royal Charter in the name and with the privity of The Queen's Remembrancer of the Court of Exchequer in Scotland, at the option of the person or persons making such application as aforesaid, in case such work or undertaking is intended to be executed in that part of the United Kingdom called Scotland; or into the Bank of Ireland in the name and with the privity of the Accountant-general of the Court of Chancery in Ireland, in case such work or undertaking is intended to be made or executed in that part of the United Kingdom called Ireland; and such warrant or order shall be a sufficient authority for the Accountant-general of the Court of Chancery in England, the Queen's Remembrancer of the Court of Exchequer in Scotland, and the Accountant-general of the Court of Chancery in Ireland, respectively, to permit the sum of money directed to be paid by such warrant or order to be placed to an account opened or to be opened in his name in the bank mentioned in such warrant or order.

Payment of Deposit.

III. And be it Enacted, That it shall be lawful for the person or persons named in such warrant or order, or the survivors or survivor of them, to pay the sum mentioned in such warrant or order into the bank mentioned in such warrant or order in the name and with the privity of the officer or person in whose name such sum shall be directed to be paid by such warrant or order, to be placed to his account there ex-parte the work or undertaking mentioned in such warrant or order, pursuant to the method prescribed by any Act or Acts for the time being in force for regulating monies paid into the said Courts, and pursuant to the General Orders of the said Court respectively, and without fee or reward; and every such sum so paid in, or the securities in or upon which the same may be invested as hereinafter mentioned, or the stocks, funds or securities authorized to be transferred or deposited in lieu thereof as hereinafter mentioned, shall there remain until the same, with all interest and dividends (if any) accrued thereon, shall be paid out of such bank, in pursuance of the provisions of this Act: Provided always, That in case any such director or person, directors or persons, having the management of any such proposed work or undertaking as aforesaid, shall have previously invested in the Three per Centum Consolidated or the Three per Centum Reduced Bank Annuities, Exchequer Bills, or other Government Securities, the sum or sums of money required by any such Standing Order of either House of Parliament as aforesaid to be deposited by the subscribers to any work or

or undertaking which is to be executed under the authority of an Act of Parliament, it shall be lawful for the person or persons named in such warrant or order, or the survivors or survivor of them, to deposit such Exchequer Bills or other Government securities in the bank mentioned in such warrant or order in the name and with the privity of the officer or person in whose name such sum shall by such warrant or order be directed to be paid, or to transfer such Government stocks or funds into the name of the officer or person; and such transfer or deposit shall be directed by such Clerk of the Office of the Clerk of the Parliaments, or such Clerk of the Private Bill Office of the House of Commons, as the case may be, in lieu of payment of so much of the sum of money required to be deposited as aforesaid as the same Exchequer Bills, or other the Government stocks or funds, will extend to satisfy at the price at which the same were originally purchased by the said person or persons, director or directors, as aforesaid, such price to be proved by production of the broker's certificate of such original purchase.

Investment of Deposit.

IV. And be it Enacted, That if the person or persons named in such warrant or order, or the survivors or survivor of them, desire to have invested any sum so paid into the Bank of England or the Bank of Ireland, or any interest or dividend which may have accrued on any stocks or securities so transferred or deposited as aforesaid, the Court in the name of whose Accountant-general the same may have been paid may, on a Petition presented to such Court, in a summary way by him or them, order that such sum or such interest or dividends shall, until the same be paid out to the parties entitled to the same in pursuance of this Act, be laid out in the Three per Centum Consolidated or Three per Centum Reduced Bank Annuities, or any Government security or securities, at the option of the aforesaid person or persons, or the survivor or survivors of them.

Repayment of Deposit.

V. And be it Enacted, That on the termination of the Session of Parliament in which the Petition or Bill for the purpose of making or sanctioning any such work or undertaking shall have been introduced into Parliament, or if such Petition or Bill shall be rejected or finally withdrawn by some proceeding in either House of Parliament, or shall not be allowed to proceed, or if the person or persons by whom the said money was paid or security deposited, shall have failed to present a Petition, or if an Act be passed authorizing the making of such work or undertaking, and if in any of the foregoing cases the person or persons named in such warrant or order, or the survivors or survivor of them, or the majority of such persons, apply by Petition to the Court in the name of whose Accountant-general the sum of money mentioned in such warrant or order shall have been paid, or such Exchequer Bills, stocks, or funds shall have been deposited or transferred as aforesaid, or to the Court of Exchequer in Scotland, in case such sum of money shall have been paid in the name of the said Queen's Remembrancer, the Court in the name of whose Accountant-general or Queen's Remembrancer such sum of money shall have been paid, or such Exchequer Bills, stocks or funds shall have been deposited or transferred, shall by order direct the sum of money paid in pursuance of such warrant or order, or the stocks, funds or securities in or upon which the same may have been invested, and the interest or dividends thereof, or the Exchequer Bills, stocks or funds so deposited or transferred as aforesaid, and the interest and dividends thereof, to be paid or transferred to the party or parties so applying, or to any other person or persons whom they may appoint in that behalf; but no such order shall be made in the case of any such Petition or Bill being rejected or not being allowed to proceed, or being withdrawn or not being presented, or of an Act being passed authorizing the making of such work or undertaking, unless upon the production of the certificate of the Chairman of Committees of the House of Lords with reference to any proceeding in the House of Lords, or of the Speaker of the House of Commons, with reference to any proceeding in the House of Commons, that the said Petition or Bill was rejected or not allowed to proceed, or was withdrawn during its passage through one of the Houses of Parliament, or was not presented, or that such Act was passed, which certificate the said Chairman or Speaker shall grant on the application in writing of the person or persons, or the majority of the persons, named in such warrant, or the survivor or survivors of them: Provided always, That the granting of any such certificate, or any mistake or error therein or in relation thereto, shall not make the Chairman or Speaker signing the same liable in respect of any monies, stocks, funds and securities which may be paid, deposited, invested or transferred in pursuance of the provisions of this Act, or the interest or dividends thereof.

Granting Certificate, &c. not to make the Chairman or Speaker signing the same liable.

STANDING ORDERS relative to PUBLIC MATTERS.

Bills respecting Religion.

[30 April 1772.]

THAT no Bill relating to Religion, or the alteration of the Laws concerning Religion, be brought into this House, until the Proposition shall have been first considered in a Committee of the whole House, and agreed unto by The House.

Bills respecting Trade.

[9 April 1772.]

THAT no Bill relating to Trade, or the alteration of the Laws concerning Trade, be brought into The House, until the Proposition shall have been first considered in a Committee of the whole House, and agreed unto by The House.

Applications for Public Money.

[25 June 1852.]

THAT this House will receive no Petition for any Sum of Money, relating to Public Service, or proceed upon any Motion for granting any Money, but what is recommended from The Crown.

[29 March 1707.]

That this House will not proceed upon any Petition, Motion or Bill, for granting any Money, or for releasing or compounding any Sum of Money owing to The Crown, but in a Committee of the whole House.

[25 June 1852.]

That if any Motion be made in The House for any Public Aid, or Charge upon the people, the consideration and debate thereof shall not be presently entered upon, but shall be adjourned till such further day as The House shall think fit to appoint, and then it shall be referred to a Committee of the whole House before any Resolution or Vote of The House do pass therein.

[25 March 1715.]

That this House will not receive any Petition for compounding any Sum of Money owing to The Crown, upon any branch of the Revenue, without a Certificate from the proper Officer or Officers annexed to the said Petition, stating the Debt, what Prosecutions have been made for the Recovery of such Debt, and setting forth how much the Petitioner and his Security are able to satisfy thereof.

[22 February 1821.]

That this House will not proceed upon any Motion for an Address to The Crown, praying that any money may be issued, or that any expense may be incurred, but in a Committee of the whole House.

Pecuniary Penalties.

[24 July 1849.]

THAT with respect to any Bill brought to this House from the House of Lords, or returned by the House of Lords to this House, with Amendments, whereby any pecuniary penalty, forfeiture or fee shall be authorized, imposed, appropriated, regulated, varied, or extinguished, this House will not insist on its ancient and undoubted privileges in the following cases:

1. When the object of such pecuniary penalty or forfeiture is to secure the execution of the Act, or the punishment or prevention of offences.

2. Where such fees are imposed in respect of benefit taken or service rendered under the Act, and in order to the execution of the Act, and are not made payable into the Treasury or Exchequer, or in aid of the Public Revenue, and do not form the ground of public accounting by the parties receiving the same, either in respect of deficit or surplus.

3. When such Bill shall be a Private Bill for a Local or Personal Act.

Temporary Laws.

[24 July 1849.]

THAT the precise duration of every Temporary Law be expressed in a distinct Clause at the end of the Bill.

Presentation of Public Petitions.

[14 April 1842.]

THAT every Member offering to present a Petition to The House, not being a Petition for a Private Bill, or relating to a Private Bill before The House, do confine himself to a statement of the Parties from whom it comes, of the number of signatures attached to it, and of the material allegations contained in it, and to the reading of the prayer of such Petition.

That every such Petition not containing matter in breach of the Privileges of this House, and which, according to the Rules or usual Practice of this House, can be received, be brought to the Table by the direction of The Speaker, who shall not allow any Debate, or any Member to speak upon, or in relation to, such Petition; but it may be read by the Clerk at the Table, if required.

That, in the case of such Petition complaining of some present personal grievance, for which there may be an urgent necessity for providing an immediate remedy, the matter contained in such Petition may be brought into discussion on the presentation thereof.

That all other such Petitions, after they shall have been ordered to lie on the Table, be referred to the Committee on Public Petitions, without any Question being put; but if any such Petition relate to any matter or subject, with respect to which the Member presenting it has given Notice of a Motion, and the said Petition has not been ordered to be printed by the Committee, such Member may, after Notice given, move that such Petition be printed with the Votes.

That, subject to the above regulations, Petitions against any Resolution or Bill imposing a Tax or Duty for the current service of the year, be henceforth received, and the usage under which The House has refused to entertain such Petitions be discontinued.

Members' Places.

[6 April 1835.]

THAT no Member's name be affixed to any seat in the House before the hour of Prayers; and that the Speaker do give directions to the doorkeepers accordingly.

Strangers.

[5 February 1845.]

THAT the Serjeant-at-Arms attending this House do, from time to time, take into his custody any Stranger whom he may see, or who may be reported to him to be, in any part of the House or Gallery appropriated to the Members of this House, and also any Stranger who, having been admitted into any other part of the House or Gallery, shall misconduct himself, or shall not withdraw when Strangers are directed to withdraw, while The House, or any Committee of the whole House, is sitting; and that no person so taken into custody be discharged out of custody without the special order of The House.

That no Member of this House do presume to bring any Stranger into any part of the House or Gallery appropriated to the Members of this House, while The House, or a Committee of the whole House, is sitting.

Prayers.

[25 June 1852.]

THAT the Serjeant-at-Arms attending this House do, from time to time, when the House is going to Prayers, give Notice thereof to all Committees; and that all proceedings of Committees, after such Notice, be declared to be null and void.

Letters.

[25 June 1852.]

THAT, to prevent the intercepting or losing of Letters directed to Members of this House, the person appointed to bring Letters from the General Post Office to this House, or some other person to be appointed by the Postmaster-General, do for the future, every day during the Session of Parliament, Sundays excepted, constantly attend, from Ten of the clock in the morning till Seven in the afternoon, at the place appointed for the delivery of the said Letters, and take care, during his stay there, to deliver the same to the several Members to whom they shall be directed, or to their known servant or servants, or other persons bringing notes under the hands of the Members sending for the same.

That the said Officer do, upon his going away, lock up such Letters as shall remain undelivered; and that no Letter be delivered but within the hours aforesaid.

That the said Orders be sent to the Postmaster-General at the commencement of each Session.

That, when any Letter or Packet directed to this House shall come to Mr. Speaker, he do open the same; and acquaint the House, at their next sitting, with the contents thereof, if proper to be communicated to this House.

Public Business.

[25 June 1852, amended 5 August 1853.]

THAT, unless The House shall otherwise direct, all Orders of the Day set down in the Order Book for Mondays, Wednesdays and Fridays, shall be disposed of before The House will proceed upon any Motions of which Notices shall have been given.

That at the time fixed for the commencement of Public Business, on days on which Orders have precedence of Notices of Motions, and after the Notices of Motions have been disposed of on all other days, Mr. Speaker do direct the Clerk at the Table to read the Orders of the Day, without any Question being put.

That the Orders of the Day be disposed of in the order in which they stand upon the Paper; the right being reserved to Her Majesty's Ministers of placing Government Orders at the head of the List, in the rotation in which they are to be taken on the days on which Government Bills have precedence.

That no Notice shall be given beyond the period which shall include the Four Days next following on which Notices are entitled to precedence; due allowance being made for any intervening adjournment of The House, and the period being in that case so far extended as to include Four Notice Days falling during the sitting of The House.

That The House do meet every Wednesday, at Twelve o'clock at noon, for Private Business, Petitions, Orders of the Day, and Notices of Motions, and do continue to sit until Six o'clock, unless previously adjourned.

That when such business has been disposed of, or at Six o'clock precisely, notwithstanding there may be business under discussion, Mr. Speaker do adjourn The House, without putting any Question.

That the business under discussion, and any business not disposed of at the time of such Adjournment, do stand as Orders of the Day for the next day on which The House shall sit.

* That at a quarter before Six o'clock on Wednesday, the Debate on any business then under discussion shall stand adjourned to the next day on which The House shall sit; after which no opposed business shall be proceeded with.

That whenever The House shall be in Committee on Wednesday at a quarter before Six o'clock, the Chairman do report Progress, and Mr. Speaker do resume the Chair.

† That whenever the House shall sit, for despatch of business, at Twelve o'clock on any day, except Wednesday and Saturday, or at any later hour, unless The House shall otherwise order, The House will resume its sitting at Six o'clock.

That when such business has not been disposed of at Four o'clock, unless The House shall otherwise order, Mr. Speaker (or the Chairman, in case The House shall be in Committee) do leave the Chair, and The House will resume its sitting at Six o'clock, when the Orders of the Day not disposed of at the morning sitting, and any Motion which was under discussion at Four o'clock, shall be set down in the Order Book after the other Orders of the Day.

That whenever The House shall be in Committee at Four o'clock, the Chairman do report Progress when The House resumes its sitting.

That all Dropped Orders of the Day be set down in the Order Book after the Orders of the Day for the next day on which the House shall sit.

That when any Bill shall be presented by a Member, in pursuance of an Order of this House, or shall be brought from the Lords, the Questions "That this Bill be now read a first time," and "That this Bill be printed," shall be decided without Amendment or Debate.

That the Committees of Supply and Ways and Means shall be fixed for Monday, Wednesday and Friday, and for any other day on which Orders of the Day shall have precedence of Notices of Motions, of which Notice shall have been given on the preceding Friday.

That

[Resolutions, 1 June 1854.]

That it be an Instruction to all Committees of the whole House to which Bills may be committed, that they have power to make such Amendments therein as they shall think fit, provided they be relevant to the subject-matter ot the Bill; but that if any such Amendments shall not be within the Title of the Bill, they do amend the Title accordingly, and do report the same specially to The House.

That the Questions for reading a Bill a First and Second Time in a Committee of the whole House be discontinued.

That in going through a Bill no Questions shall be put for the filling up words already printed in *italics*, and commonly called blanks, unless exception be taken thereto; and if no alterations have been made in the words so printed in *italics*, the Bill shall be reported without Amendments, unless other Amendments have been made thereto.

That on a Clause being offered in the Committee on the Bill, or on the consideration of Report or Third Reading of a Bill, Mr. Speaker or the Chairman do desire the Member to bring up the same, whereupon it shall be read a First Time without Question put, but no Clause shall be offered on consideration of Report or Third reading without notice.

That Lords' Amendments to Public Bills shall be appointed to be considered on a future day, unless The House shall order them to be considered forthwith.

That every Report from a Committee of the whole House be brought up without any Question being put.

That Bills which may be fixed for consideration in Committee on the same day, whether in Progress or otherwise, may be referred together to a Committee of the whole House, which may consider on the same day all the Bills so referred to it, without the Chairman leaving the Chair on each separate Bill; provided that, with respect to any Bill not in Progress, if any Member shall raise an objection to its consideration, such Bill shall be postponed.

* This Order has been amended by adding the words "after which no opposed business shall be proceeded with."

† This Order has been amended by omitting after the word "order," in line 3, the words "if such business be disposed of not later than Three o'clock, The House will resume its sitting at Five o'clock; and if such business be disposed of after Three o'clock and before Four o'clock."

Divisions.

[Resolutions, 29 July 1853.]

That, except when Mr. Speaker or the Chairman of a Committee of the whole House shall otherwise direct, his order for the withdrawal of Strangers during a Division, shall be understood to apply to Strangers occupying seats below the Bar and in the Front Gallery, and shall be enforced by the Serjeant-at-Arms accordingly.

That so soon as the voices have been taken, the clerk shall turn a two-minute sand-glass, to be kept on the table for that purpose, and the doors shall not be closed until after the lapse of two minutes, as indicated by such sand-glass.*

That the doors shall be closed so soon after the lapse of two minutes as the Speaker or the Chairman of the Committee of the whole House shall think proper to direct.

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* This Resolution has been amended by leaving out the words "Strangers have been directed to withdraw," in line 1, and inserting the words "the voices have been taken."

That when a Bill or other matter (except Supply, or Ways and Means) has been partly considered in Committee, and the Chairman has been directed to report Progress, and ask leave to sit again, and The House shall have ordered that the Committee shall sit again on a particular day, The Speaker shall, when the order for the Committee has been read, forthwith leave the Chair, without putting any question, and The House shall thereupon resolve itself into such Committee.

That at the close of the Proceedings of a Committee of the whole House on a Bill, the Chairman shall report the Bill forthwith to The House, and when Amendments shall have been made thereto, the same shall be received, without debate, and a time appointed for taking the same into consideration.

Select Committees.

[25 June 1852.]

THAT no Select Committee shall, without leave of The House, consist of more than Fifteen Members; that such leave shall not be moved for without Notice; and that in the case of Members proposed to be added or substituted after the first appointment of the Committee, the Notice shall include the Names of the Members proposed to be added or substituted.

That every Member intending to move for the appointment of a Select Committee, do endeavour to ascertain previously whether each Member proposed to be named by him, on such Committee, will give his attendance thereupon.

That every Member intending to move for the appointment of a Select Committee, shall, One day next before the nomination of such Committee, place on the Notices the Names of the Members intended to be proposed by him, to be Members of such Committee.

That lists be affixed in some conspicuous place in the Committee Clerks' Office, and in the Lobby of the House, of all Members serving on each Select Committee.

That to every Question asked of a Witness under examination, in the Proceedings of any Select Committee, there be prefixed in the Minutes of the Evidence the Name of the Member asking such Question.

That the Names of the Members present each day on the sitting of any Select Committee be entered on the Minutes of Evidence, or on the Minutes of the Proceedings of the Committee (as the case may be), and reported to the House on the Report of such Committee.

That in the event of any Division taking place in any Select Committee, the Question proposed, the Name of the Proposer, and the respective Votes thereupon of each Member present, be entered on the Minutes of Evidence, or on the Minutes of the Proceedings of the Committee (as the case may be), and reported to the House on the Report of such Committee.

That if, at any time during the sitting of a Select Committee of this House, the Quorum of Members fixed by The House shall not be present, the Clerk of the Committee shall call the attention of the Chairman to the fact, who shall thereupon suspend the Proceedings of the Committee until a Quorum be present, or adjourn the Committee to some future day.

A TABLE of the FEES to be charged at The House of Commons.

FEES to be paid by the PROMOTERS of a PRIVATE BILL.

	£.	s.	d.
On the deposit of the Petition, Bill, Plan, or any other Document in the Private Bill Office	5	–	–
For every day on which the Examiners shall inquire into the compliance with the Standing Orders	5	–	–
For Proceedings in the House.			
On the presentation of the Petition for the Bill	5	–	–
On the First Reading of the Bill	15	–	–
On the Second Reading of the Bill	15	–	–
On the Report from the Committee on the Bill	15	–	–
On the Third Reading of the Bill	15	–	–

Bills from the Lords, commonly called Estate Bills, Divorce Bills, Naturalization Bills and Name Bills, to be charged only one-half of the preceding Fees.

The preceding Fees on the Petition, First, Second and Third Readings, and Report, to be increased according to the money to be raised or expended under the authority of any Bill for the execution of a Work, in conformity with the following Scale:—

If the sum be	50,000*l.*,	and under	100,000*l.*	twice the amount of such Fees.	
„	100,000*l.*	„	200,000*l.*	three times	„
„	200,000*l.*	„	300,000*l.*	four „	„
„	300,000*l.*	„	400,000*l.*	five „	„
„	400,000*l.*	„	500,000*l.*	six „	„
„	500,000*l.*	„	750,000*l.*	seven „	„
„	750,000*l.*	„	1,000,000*l.*	eight „	„
„	1,000,000*l.*	„	1,500,000*l.*	nine „	„
„	1,500,000*l.*	„	2,000,000*l.*	ten „	„

And at the same rate of increase for every additional 500,000*l.*, up to five millions, and further at the like rate of increase for every additional million beyond five millions.

For Proceedings before any Committee.

For every day on which the Committee shall sit,—	£.	s.	d.
If the Promoters of the Bill appear by Counsel	10	–	–
If they appear without Counsel	5	–	–

FEES to be paid by the OPPONENTS of a PRIVATE BILL.

	£.	s.	d.
On the deposit of every Memorial complaining that the Standing Orders have not been complied with	1	–	–
On the presentation or deposit of every Petition against a Private Bill	2	–	–

For

For Proceedings before the Examiners, or before any Committee.

	£.	s.	d.
For every day on which the Examiners shall inquire into any Memorial complaining of a non-compliance with the Standing Orders	3	–	–
For every day on which the Petitioners appear by Counsel before any Committee	5	–	–
If they appear without Counsel	3	–	–

GENERAL FEES.

	£.	s.	d.
On every Motion, Order or Proceeding in the House upon a Private Bill, Petition, or matter not otherwise charged	1	–	–
For Copies of all Papers and Documents, at the rate of 72 words in every folio,—			
If five folios or under	–	2	6
If above five folios, per folio	–	–	6
For the Copy of a Plan made by the parties	1	–	–
For the inspection of a Plan, or of any document	–	5	–
For every Plan or Document certified by The Speaker pursuant to any Act of Parliament	10	–	–
For every day on which any parties shall be heard by Counsel at the Bar, from each side	10	–	–
For every day on which a Committee of the whole House shall sit on a Private Bill or matter	6	–	–
For serving any Summons or Order on a Private Bill or matter	1	–	–
For Riding Charges, if on any Private Bill or matter, per mile	–	1	–
For every Order for the commitment or discharge of any person	1	–	–
For taking any person into custody for a Breach of Privilege or Contempt	5	–	–
For taking any person into custody for any other cause	2	–	–
For every day on which any person shall be in custody	1	–	–
For Riding Charges, per mile	–	–	6

FEES to be paid on the Taxation of Costs on Private Bills.

	£.	s.	d.
For every application or reference to "The Taxing Officer of the House of Commons," for the Taxation of a Bill of Costs	1	–	–
For every £.100 of any Bill which shall be allowed by the Taxing Officer	1	–	–
For every Bill under £.100	1	–	–
On the deposit of every Memorial complaining of a Report of the Taxing Officer	1	–	–
For every Certificate which shall be signed by The Speaker	1	–	–
For Copies of any Documents in the office of the Taxing Officer, per folio of seventy-two words	–	1	–

That the same Fees be paid in case The Speaker shall refer to the Taxing Officer any Bill of Costs, under the authority of an Act of the sixth year of his late Majesty King George the Fourth, "To establish a Taxation of Costs on Private Bills in the House of Commons."

That every Bill for the particular interest or benefit of any person or persons, whether the same be brought in upon Petition, or Motion, or Report from a Committee, or brought from the Lords, hath been and ought to be deemed a Private Bill within the meaning of the Table of Fees.

FEES to be taken by the Short Hand Writer.	£.	s.	d.
For every day he shall attend - - - - - -	2	2	–
For the transcript of his notes, per folio of 72 words - -	–	–	9

The preceding Fees shall be charged, paid and received at such times, in such manner, and under such regulations, as The Speaker shall from time to time direct.

Veneris, 25° *die Junii*, 1852.

Ordered, That the said Table of Fees be a Standing Order of this House.

REPORT

FROM THE

SELECT COMMITTEE

ON

STANDING ORDERS REVISION.

1854.

Ordered, by The House of Commons, *to be Printed,*
14 *July* 1854.

371.

Under 16 *oz.*

BGL LONDON. UNIV.

SECOND

REPORT

FROM THE

SELECT COMMITTEE

ON

VENTILATION OF THE HOUSE;

WITH THE

MINUTES OF EVIDENCE

TAKEN BEFORE THEM.

Ordered, by The House of Commons, *to be Printed,*
26 *May* 1854.

Veneris, 10° *die Martii*, 1854.

Ordered, That a Select Committee be appointed to consider of the best Means of improving the Ventilation of the House, the Lobbies, and the Libraries, and to report thereupon to The House as soon as may be.

Committee nominated of,—

Mr. Spooner.	Lord John Manners.
Sir William Molesworth.	Mr. Chichester Fortescue.
Mr. Thomas Greene.	Mr. Wilson Patten.
Lord Robert Grosvenor.	Sir Benjamin Hall.
Mr. Hume.	Mr. Bouverie.
Mr. Drummond.	Lord Elcho.
Mr. Bankes.	Marquis of Chandos.
Mr. Cayley.	

Ordered, That the Committee have power to send for Persons, Papers, and Records.

Ordered, That Five be the Quorum of the Committee.

Martis, 14° *die Martii*, 1854.

Ordered, That the Reports on Ventilation, Warming and Lighting of the Houses of Parliament be referred to the Committee.

Veneris, 31° *die Martii*, 1854.

Ordered, That the Committee have power to report their Observations, together with the Minutes of the Evidence taken before them, from time to time, to The House.

REPORT - - - - - - - - - - - p. iii

MINUTES OF EVIDENCE - - - - - - p. 1

SECOND REPORT.

THE SELECT COMMITTEE appointed to consider of the best Means of Improving the VENTILATION of the HOUSE, the LOBBIES, and the LIBRARIES, and to Report thereupon at as early a period as may be:——HAVE made further progress in the Matters to them referred, and have agreed to the following SECOND REPORT:

THE House having adopted the Report made to it before Easter, and facilities having in consequence been afforded by the Board of Works to Mr. Gurney for carrying out such of his suggestions as were practicable during the Easter holidays,

Your Committee thought it advisable to allow some time to elapse before taking any further steps, in order that Members might have an opportunity of appreciating the effects of the changes which had been made.

Your Committee have gathered from their inquiries among the Members and officials, that the atmosphere of the House is sensibly sweeter, fresher, and purer than before, and the draughts greatly diminished. The temperature is under better control; it can be as rapidly raised as reduced.

At first an average temperature of from 63° to 64° was ordered to be maintained; afterwards (lately), one of 65°. Occasionally, under complaints from Members of cold, the temperature has been raised to 66°, 66½°, and even to 67°.

Whatever draughts remain, Your Committee are led to believe may be attributed to circumstances over which Mr. Gurney has no control, viz., to the air in the Lobby, in the Libraries, in the passages leading to these, and in the corridors leading to the Ladies' Gallery being under other management, and out of balance.

Mr. Gurney has lately made a Report to the Committee of what has been done during and since the Easter holidays, in respect both of the ventilation and warming of the House. At the conclusion of that Report will likewise be seen some suggestions as to increased facilities and means required to be placed at his disposal.

The ventilation of the Library, it appears, cannot be satisfactorily effected without an understanding with the House of Lords; since the blowing engine which drives the air into the Central or Victoria Hall communicates not only with the Library of the Commons, but with the Library and Committee-rooms of the Lords. The House of Lords itself is ventilated through a separate air-course, although from the same source. If, therefore, the ventilation of the House of Lords itself should continue under a distinct management, it is very desirable that the Libraries of both Houses, and Committee-rooms and passages adjoining, should all be under one management.

The Lobby of the House of Commons itself cannot be properly ventilated without the passages leading to it being under one and the same control; which is not now the case.

A Committee of the House of Lords is now sitting on this subject, and it is hoped that no difficulty will arise in coming to a satisfactory understanding on this point.

With respect to the Commons' Committee-rooms upstairs, it appears that a principal cause of deficient ventilation was, that the shaft intended for extracting the air was performing the part of a down-cast instead of an up-cast. There has been no time for remedy of this defect.

The only complaints which Your Committee have heard from Members are, first, occasional ones of a sense of coldness in the House. This is probably attributable to the partial draughts from the extraneous sources indicated above. These Mr. Gurney considers that the Whitsun holidays will afford him an opportunity of detecting and stopping.

Secondly, Coldness about the feet, experienced especially by those sitting on the benches on the floor, on both sides of the table. The cause assigned for the latter inconvenience is the large cast-iron water vessels fixed immediately beneath the feet, under the carpet. The opportunity has not yet served for removing these vessels, but preparations are making for doing so at Whitsuntide. They seem to have been placed there for holding hot water in winter, but to have been disused for a year or two. The effect of them is to produce cold eddies about the feet.

During the few days' intermission of the sitting of The House, at Whitsuntide, Mr. Gurney is of opinion that material additions might be made upon the improvements already effected in the Ventilation of The House if the requirements suggested by him in the Evidence now reported were afforded. The ventilated lights in the outer lobby and the division-rooms should be replaced. The Board of Works would doubtless take care that competent judges, such as a surveyor of a fire office, were consulted as to the perfect security of such a proceeding. These suggestions Your Committee beg to recommend to the immediate consideration of The House.

26 *May* 1854.

MINUTES OF EVIDENCE.

Martis, 23° *die Maii*, 1854.

MEMBERS PRESENT.

Mr. Greene.	Mr. Drummond.
Mr. Spooner.	Mr. Wilson Patten.
Mr. Cayley.	

E. S. CAYLEY, Esq., IN THE CHAIR.

Goldsworthy Gurney, Esq., called in; and further Examined.

189. *Chairman.*] WILL you describe to the Committee what you have done since you entered upon your present duties, connected with the ventilation of the House?

On the report of this Committee being confirmed by The House, I was requested to communicate with the Office of Works on the subject of carrying out any or all the suggestions I had made in my late report during the Easter recess. We considered it practicable to carry out so much of my first suggestion, namely, "that the window should be made to open in the House," as to finish four windows, two on each side. We, however, were enabled to open eight windows, four on each side, before the close of the recess.

In regard to the second recommendation respecting the warming apparatus, it was found impossible to substitute, in the time, a more simple apparatus for warming, but thought advisable to prepare it as far as possible without disturbing any of the existing arrangements. During the recess, we partially substituted the proposed apparatus; and since the meeting of The House, after Easter, we have introduced sufficient of the new apparatus for the present requirements of The House; the warming apparatus previously in operation is now out of use.

In regard to the third recommendation, respecting reversing the intake, it was thought impracticable to make the necessary change for downward ventilation during the holidays, and therefore nothing was done towards it; but, since the recess, we have so far made arrangements as to be now able to do so partially.

The fourth recommendation, respecting the lobby and division-room lights, has not been carried out.

The fifth recommendation, respecting the libraries, has not been accomplished, or indeed began.

The sixth recommendation, in regard to the committee-rooms, has been partially begun. It was thought that two rooms might have been done during the Easter recess: but it was considered advisable afterwards that all our attention should be confined to the House itself, the more particularly, since we found on making an opening in the corridor outside the committee-rooms, to relieve the corridor from vitiated air into the extracting shaft above, that there was no extraction there at all; in short, instead of the air going out, it came in, and that it was virtually a downcast shaft, instead of an outcast, as it was said to be. There was not then, neither has there been since, sufficient time to apply an extracting power to the shaft to make it an outcast; so that at present the opening is shut up again and the committee-room unaltered.

G. Gurney, Esq.

23 May 1854.

The seventh recommendation has not been carried out.

In regard to the House itself, I have removed most of the obstructions to the interchange of air; there is now a free communication under easy control, with the external atmosphere; in consequence of which, a perfect pneumatic balance is now preserved in the House, which before was broken by throttled passages. The air-courses are enlarged, both for the ingress and egress of air. The incoming air was first tempered to 63°, 64°, and has latterly been raised, at the request of some Members of the Committee, to 65°. This temperature has been uniformly preserved in the House, whether full or not. I may observe, as a proof of it, that on the night of the division on the malt tax there were about 700 persons in the House, including strangers, reporters, and others, during which period the thermometer did not vary more than a degree, notwithstanding the number of persons present, and the extra amount of ventilation necessary. About 9,000 cubic feet per minute of fresh air passed through the House on this occasion. Below the strangers' gallery there is no provision made or is there any means, without much expense, for withdrawing the vitiated air. The vitiated air from the galleries is consequently withdrawn upwards through the fretwork at the back of the galleries to an escapage opening which we have had made into the upcast shaft above. Part of the vitiated air goes this way out of the House; the rest downwards through the floor. Fresh air comes in by its own natural laws of interchange, and we have thrown the two steam engines out of use, which were previously used for driving air into the House. The steam engine is still in use for driving air into the corridors and passages leading to the lobby of the House, over which I have no control. The air in those passages is sometimes in excess and sometimes minus, so that the balance between it and the outer air is never balanced; the air of the House is always so; consequently, when the doors between them are opened, air rushes in or out, as the case may be, to restore this balance, and occasions much inconvenience and disturbance of the air in the House itself. These parts must be put under the same balance as the House itself, before the disturbing draughts can be entirely prevented. The heat from the open gas-burners in the lobby make the atmosphere of the lobby very hot, and dry; so much so that there is difficulty in keeping down the heat, and bringing up the break of the hygrometer.

The division rooms are also affected by the heat of the candles, and Argand burners, placed in them; the temperature is so much raised, that on a division, Members feel cold on returning to the standard temperature in the House.

The standard temperature is now fixed to 65°; some Members feel it not high enough; while others think it too high. As there is perfect control over the temperature, and it can be kept within a degree of any standard named, it might be desirable, if the temperature wished should be fixed by the Committee.

All the arrangements are not yet completed, but I trust when they are so, the House will be healthy and agreeable.

We have not been able, from want of time and the complicated fixing of some cast-iron water vessels below the feet of the lower benches, to raise this part of the floor so high as the rest of the House.

Many interruptions to the general diffusion below the Chamber of the House are not yet taken away; the workmen are doing as much as they can towards it every day before the House meets.

During the Whitsuntide recess much may be done, if powers are given: some I will mention as very desirable.

First. One or two of the windows in the lobby of the House should be made to open.

Secondly. The 16 open gas-burners in the lobby should be discontinued, and a central ventilated light substituted; to carry off all its heat and products of combustion.

Thirdly. In the division rooms ventilated lights should be introduced, and the present candles and Argand burners removed; also in the retiring rooms above.

Fourthly. Larger areas for the escapage of vitiated air from the lobby, and also from the House, should be made.

Fifthly. That until the air of the passages can be brought to a balance with the outer atmosphere, swing doors, leading to the ladies' gallery and reporters' rooms should be fixed in the passages.

190. When you recommend that the lights should be changed in the lobby and in the division lobbies, is it not the fact, that they were changed last year?—A central light to light the lobby was placed there last session, and burnt about two months at the end of the session. It was placed there as a naked light, unornamented. At the end of the session it was decided that we should complete it, and have it placed in an ornamental enclosure, in keeping with the architecture of the House. It was thought the architect should give a design for the enclosure. He was written to by the Office of Works, and promised to give the design immediately. Within a week only of the meeting of the House this session, I received a letter from the Office of Works, saying that Sir Charles Barry had just discovered it to be dangerous, and that therefore he had not given any design for the enclosure. I had the place looked at by persons whom I considered good authorities, and I found that, in their opinion, there was no danger whatever. During the first week of its burning, around it I placed delicate tests, but could find nothing to indicate inconvenient heat.

191. Were the lights said to be dangerous in the lobby, and in the division lobbies also?—The ventilation tube was said to be too near the wood of a panel; as there would be no difficulty in removing that wooden panel and placing an iron one in its stead, at a cost of not more than half a dozen shillings, I thought the objection was evidence of unfair opposition; and therefore I took no further steps in the matter.

192. It was burning, as you suggested, virtually for about two months during the last session?—Yes.

193. And what was the effect of it?—The effect of it was, that the atmosphere of the lobby was very considerably reduced; and that all the products of combustion and heat were carried away to the extracting shaft.

194. What was the effect with regard to the division lobbies?—They were arranged in the same way; the ventilating flues were passed through brickwork placed there by the architect; just before the House met it was said there was danger, and they were discontinued.

195. Why do you think they are not dangerous?—Because the flues are imbedded in brickwork; I do not see how any mischief whatever could be done; there was no wood near them; there were nothing but stones and slates above.

196. Were they lit by gas?—Yes; the ventilating flue was first carried through a cast iron pendant and then through brickwork.

197. Did you provide new apparatus for the system of lighting which you adopted during the latter part of last session?—Yes, the apparatus was all prepared and fixed during the recess.

198. Your apparatus?—Yes.

199. You do not make use of the new apparatus, do you?—No; I think it would be well if this matter was looked at; and if there really was found any cause of danger, it might be removed.

200. Did you consult any competent authority as to whether there was danger?—I submitted the matter to such authority as satisfied myself; I was perfectly satisfied; the Office of Works, I believe, submitted it to parties after the tube had been moved out of its place during the recess: and whose judgment might be biassed.

201. A competent judge of such a matter, I presume, would be a surveyor of a fire office?—The opinion of such a person would be the most satisfactory, I think.

202. You would wish one or two surveyors of fire offices to inspect and judge for the Committee whether the arrangement you made would be dangerous to the building?—Yes, it would be very satisfactory indeed; it was an arrangement about which I took a great deal of trouble; I should advise the light being placed as it was, and then be examined.

203. Do we understand the facts of the case to be, that the lights which you recommended were adopted, and used for two or three months in the lobby; and that in the division rooms you employed part of the last long recess in completing lights for them; and just before the meeting of The House, an order came from the Woods and Forests, that they were considered dangerous?—

G. Gurney, Esq.
23 May 1854.

An order came only about a week before. The light in the lobby was burnt for two months every night before the recess; but the lights in the division rooms were not fitted up until about three weeks or a month before The House met.

204. With regard to the division rooms, can you describe the conditions to the surveyor, or should he examine himself?—Without the light being put up, he can examine the stonework and flues. It is agreed on all hands that these lights may be made perfectly safe; but there has been, I believe, no order to do so.

205. Have you, during the Easter recess, effected what you anticipated when you stated to the Committee in 1852, that if the House was put into the hands of the Office of Works in one week you could improve its condition; you also stated that there was a condition of the House which, if not altered, would always disturb the ventilation, without stating what it was; have you any objection to state now what it was?—No; I objected to it then for the reason which I then gave, but I should be happy to state it now: it is the "*natural brattice.*" In mines they sometimes pass air downwards and upwards through the same shaft. The cold air goes down one side and warm up on the other, separated by means of a wooden partition; this partition is called a "brattice," and such a pit is called "a brattice pit." I have found, from examination, that this brattice sometimes takes place naturally in an open shaft, an upcast and a downcast, one part moving upwards, another descending to take its place; and that there was a plate of air at rest between the two currents.

206. Where does this brattice exist in the House?—Exactly where I expected it; at the bar. The downcast is strong; it runs along the floor of the House, towards the table.

207. What mischief does it do?—It disturbs the whole air.

208. Have you taken means to remedy it?—Yes. During the Easter recess, to ascertain how far draughts existed and were affected by the openings below, and how far by the natural brattice, I suspended feathers from silken threads in different parts of the House.

209. What was the effect?—The effect was that I saw the direction from which the draughts came, and where they went to. I could then detect the brattice very distinctly. Air came down the strangers' gallery and ran along the centre of the House, so that the draughts of which you complain comes from this brattice. I discovered one also in the corner of the House. That was occasioned by the ladies' gallery door being open, the principal disturbance was the brattice near the strangers' gallery. I was satisfied, when I gave evidence in 1852, that there was a brattice, and now I find it to exist. I have broken it so completely that I do not think you will now find it of any consequence.

210. Have you changed the hygrometric state of the House?—Yes, from 10 or 12 degrees down to five. We know, from experience that 12 degrees is an unhealthy state of the atmosphere, occasions rapid evaporation from the skin, lungs, and is an unhealthy atmosphere to breathe. I believe that four or five degrees is the best.

I have now brought the hygrometer on the House to five degrees; sometimes it may be six; but we never let it go further.

211. Are the windows under your control?—The windows are not a part of the ventilation. In regard to the hygrometer, attempts had been previously made during the last two years to moisten the atmosphere by high pressure steam. This system is very objectionable, first on account of its impurity, and secondly, of its burning the air at the spot of exit into the atmosphere. The present means is not steam, but slow evaporation from distilled water. The water that was first used was the common water of London. Lord Lovaine recommended distilled water as being more pure; the evaporation is now from pure distilled water.

212. The hygrometric state of the atmosphere of the House is now satisfactory to you?—It is satisfactory to me.

213. Are the windows under your control?—The windows form no part of the ventilation. Before the House meets they are under my control, but the Speaker has hitherto controlled them when sitting; they are opened and shut at his

his command, or that of the Serjeant-at-Arms; the men are requested to wait to shut them until the Speaker or Serjeant desire it.

214. What time are the windows opened in the morning?—They are now opened at five o'clock in the morning.

215. How long do they remain open?—They are opened at that time because we conceive that the atmosphere is purer then; they are kept open till about nine; they are then shut till the House is tempered, and then opened again.

216. Do you open them on one side of the House, or on both?—Generally on the leeward side.

217. Do those open windows pass air out, or in?—The fresh air generally comes in at the lower part of the casement, and warm air of the House goes out at the upper part; there is a rapid change of the atmosphere under the natural laws of interchange; which are very powerful.

218. Why have you not extended your proposed alterations to the library and lobbies?—Because the lobbies, passages, and galleries are under separate arrangement; they are under the same as the House of Lords. We cannot extend the operations of ventilating or warming the libraries without interfering with the House of Lords; it is under their engine and the same heating system; if you separate one from the other there would be no objection.

219. Cannot you improve the ventilation of the library under their present circumstances?—I could not do so without the consent of the Office of Works; and I do not think they will give consent without consultation with the House of Lords.

220. Mr. *Spooner.*] Are you not acting for the House of Lords?—No; the Committee of the House of Lords have not reported yet; I made my report to the Committee on this subject a fortnight since.

221. *Chairman.*] Is it impossible for you to improve the ventilation of the library and lobbies, and the corridor leading to the ladies' gallery, by some understanding on the part of the House of Lords?—Not without an understanding on the part of the Office of Works; they must give the power; the rooms are now so mixed together that you cannot separate ventilation one from the other; every part of the building, except the House of Commons itself, is connected to the great engine; if you go outside the door of the House you get into another system of ventilation.

222. Mr. *Spooner.*] Would it be a very expensive piece of work to alter that?—No; I have recommended to the House of Lords to make external openings for fresh air, so that the laws of interchange may take place naturally, and to do away with the steam engine altogether.

223. Could you then bring fresh air into the House of Lords from above, the same as is now done in the House of Commons?—Yes.

224. And you would make as much improvement in the House of Lords as you have made in the House of Commons?—Yes.

225. *Chairman.*] What practical method would you suggest for improving the ventilation of the libraries, previous to any understanding with The House, or in case the House of Lords determine not to put themselves under your system?—I think the better plan would be, to shut off all the communication of these rooms from the House of Lords, and to open a separate communication to them.

226. Do you see any great difficulty in carrying out that object?—No. You might admit fresh air into the library, without the steam engine, and carry away the deteriorated air by independent flues.

227. Where would you get the fresh air from?—From the River Terrace.

228. Have you heard that the air from that quarter is often contaminated?—Yes, by some bone manufactory; I think it is not to so great an extent as is generally supposed. I have watched it for a long time. In 99 days out of 100 it would not matter.

229. Are you aware that the librarians and Members sometimes complain of offensive smells coming from the windows when they are open?—Yes; that will be so occasionally, but not very often; if they complain of the air coming through the library windows they must complain of it coming through the other openings; the top of the Clock Tower, and other inlets, would be subject to the same air as the River Terrace.

 230. Have

G. Gurney, Esq.

23 May 1854.

230. Have you stated your proposed alterations with regard to the lobbies and library to the Board of Works?—Yes, I have stated them; the estimate of their expense was included in the return I made to The House.

231. Are any difficulties interposed by the Board of Works?—No; the difficulty rests more with the House of Lords. Sir William Molesworth said that we were to go on to the extent of the estimate returned to The House, and that estimate certainly included the library.

232. You told Sir William Molesworth that the difficulty was the connexion with the House of Lords?—I think an application should be made by the Board of Works to the Lords.

SECOND

REPORT

FROM THE

SELECT COMMITTEE

ON

VENTILATION OF THE HOUSE;

WITH THE

MINUTES OF EVIDENCE

TAKEN BEFORE THEM.

Ordered, by The House of Commons, *to be Printed,*
26 *May* 1854.

270.

Under 2 *oz.*

REPORT

FROM THE

SELECT COMMITTEE

ON

FRIENDLY SOCIETIES BILL;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE.

Ordered, by The House of Commons, *to be Printed,*
26 *July* 1854.

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412. ←

Mercurii, 10° *die Maii*, 1854.

Ordered, That the Friendly Societies Bill be committed to a Select Committee.

Jovis, 18° *die Maii*, 1854.

Ordered, That all Petitions of this Session relating to the said Bill be referred to the Committee.

Veneris, 19° *die Maii*, 1854.

Committee nominated of,

Mr. Sotheron.
Mr. Adderley.
Mr. Bonham Carter.
Mr. Fitzroy.
Mr. Atherton.
Mr. Mowbray.
Mr. Foley.
Mr. William Fitzgerald.
Mr. Edward Egerton.
Viscount Goderich.
Mr. Hindley.
Mr. Warner.
Mr. Gregson.
Mr. Wickham.
Mr. Evelyn Denison.

Ordered, That the Committee have power to send for Persons, Papers, and Records.

Ordered, That Five be the Quorum of the Committee.

Jovis, 25° *die Maii*, 1854.

Ordered, That the Committee do consist of Seventeen Members.

Ordered, That Mr. Fergus and Mr. Alexander be added to the Committee.

Mercurii, 26° *die Julii*, 1854.

Ordered, That the Committee have power to Report their Observations, together with the Minutes of Evidence taken before them, to The House.

REPORT.

MR. SOTHERON reported from the SELECT COMMITTEE on the FRIENDLY SOCIETIES BILL, and who were empowered to send for Persons, Papers, and Records, and to report their Observations, together with the Minutes of Evidence taken before them; that they have gone through the Bill, and made Amendments therein, and have agreed to the following REPORT:

YOUR COMMITTEE have applied themselves in the first place, in accordance with the prayer of numerous petitions, and the recommendations of two previous Select Committees, to consolidate the law relating to Friendly Societies. In the first Clause of this Bill they have repealed all previous Acts, and have placed Societies established under any of them upon the same footing as if they had been established under the present Bill, without prejudice to existing engagements with their members.

In the Clause which describes the objects for which Friendly Societies may be established, they have retained the clause of the existing Act, with the following amendments; viz., they have omitted the proviso that a Justice of the Peace shall be a Trustee of all Emigration Societies. They have also omitted the proviso which imposed a limitation of the amount of sick pay to be insured in any Society.

Your Committee have received some valuable evidence on the subject of the Clause relating to Burial Societies; and in a later part of this Report will be found a summary of the evidence, and a statement of the manner in which Your Committee have dealt with this part of the Bill.

Your Committee have withdrawn the fourth Clause, which required all Societies to be registered. The object of that Clause, as originally drawn, was, to insure that in all Friendly Societies, whether registered or not, the same conditions should be observed in regard to the payment of burial money. This object is provided for by the amendment made in that Clause itself. Your Committee however, taking into their consideration the state in which members of unregistered Societies find themselves, from being unable to have recourse to a remedy by law if they should be defrauded or unfairly treated by the officers of these Societies, are of opinion, that this, which has hitherto been treated as a privilege, ought rather to be extended as a matter of justice and policy, for the protection of the members, and they have therefore introduced a clause towards the end of the Bill, giving a power to the members of all Friendly Societies, unregistered as well as registered, to sue and be sued as between themselves and their own officers. In this respect, the difference between registered and unregistered Societies hereafter will be, that the former, being incorporated by law, will be capable of sustaining or bringing a suit against persons not of their own body; the latter will have no such power except as between themselves.

Your Committee have sanctioned the establishment of a Board of unpaid Commissioners, in accordance with the recommendation of the Select Committee which sat in 1849, and of another which sat in 1852. There was evidence furnished to each of those Committees to show that some public centre of information was required, to which persons might apply when desirous of establishing

establishing or of remodelling a Society; or of ascertaining the best mode of dealing with the pecuniary condition of a Society not yet insolvent, but virtually in its decline.

The Registrar has properly nothing to do with any of these questions; his office is to see that the Rules of the Society, sent to him for registration, contain the provisions required by law, and nothing contrary to it. But his certificate is constantly appealed to, under a mistaken notion that it implies his approval of the Rules, or an authoritative sanction of the Tables; and this mistake has led to frequent disappointments and injury; no public department, indeed, ought to undertake so grave a responsibility as that of deciding what rules or tables should be adopted by any society; but it might with advantage and safety supply materials and information which a society on its own responsibility may reject or accept, and so guide its own course by the result of the experience of others.

Your Committee have assigned to this Board the power which former Acts gave to the Attorney-general, of sanctioning the formation of a Society similar, though not identical with, any of those enumerated in the second Clause, and even of dispensing with some of the provisions of this Act, in cases where circumstances render it impossible or highly inconvenient to Societies to comply with them, and which consequently cannot obtain from the Registrar a legal certificate.

Your Committee have more clearly defined the duties of the Registrar, by omitting certain discretionary words, which have sometimes led to imputations of a want of uniformity in his decisions. They have also erased from the Bill the fees hitherto payable upon registration; for this reason, that since Parliament has withdrawn the principal privileges which formerly were an inducement to Societies to register, it seems to the Committee to be a mistaken policy to deter them by a fee, which though trifling in amount, is sometimes a real obstacle, sometimes a plea, with the managers of Societies, for abstaining from taking the steps necessary for acquiring a legal character.

In regard to the settlement of disputes, Your Committee have followed the existing law, by declaring that they shall be settled in such manner as the Rules shall direct, whether that be by a method of appeal amongst the members, or by arbitration, or by Justices, or by the County Court. Questions respecting the removal of a Trustee, or a misapplication of funds, Your Committee refer to the County Court; but in case any officer or member should fraudulently obtain possession of the monies or securities of any Friendly Society, immediate recourse may still be had without delay to a Justice, lest the misdoer might escape before the Judge of the County Court should hold his next sittings, or be in a condition to interfere.

The subject of child murder, alleged to be induced by the temptation of funeral money, having been referred to in the House by several Members, and having occasioned great uneasiness in the various burial societies throughout the kingdom, received particular attention from Your Committee.

Four judges, two governors of prisons, two coroners, a chief of police, a chaplain of a prison, a registrar of birth and death, and a solicitor who had been engaged in a prosecution for child murder, gave evidence before Your Committee. Letters also from inspectors of factories were produced before them.

The substance of their evidence was as follows: Mr. Justice Wightman did not remember to have tried more than one case of child murder, namely, that of Honnor Gibbons and Bridget Garretty, for the murder of a child of the former, nine months old; the inducement being a sum of four pounds, receivable from a burial society. These prisoners were convicted.

Mr. Baron Alderson did not remember to have tried any case of child murder, but depositions on such a charge having been laid before him, he noticed that crime specially in addressing the grand jury at Liverpool last December, and the grand jury thereupon made a presentment, to the effect that the interference of the Legislature was called for to put a stop to the system of money payments by burial societies. The prisoners however so charged, having been

tried

tried before Mr. Baron Martin, were acquitted, and that judge informed the Committee that there were no grounds at all for connecting the alleged crime with the receipt of funeral money. Mr. Baron Martin also informed the Committee that no other case of child murder had ever been brought before him for trial, where the motive of burial money was alleged.

Chief Baron Pollock gave the Committee information respecting a well-known trial for murder at Chelmsford in 1850, when a woman named May was found guilty of poisoning her husband, and attempting to poison a grown-up son; and one at Lewes in 1849. In these cases the burial money was proved, or appeared to him to have been the temptation, though it was of so small an amount as between 20 *s.* and 40 *s.*

The Governor of Chester Gaol recollected four prisoners, since 1841, committed to his custody on the charge of child-murder; two of whom were acquitted and two convicted; one being the case above referred to by Mr. Justice Wightman.

The Governor of Kirkdale Prison, in an experience of 10 ½ years, has had no prisoner in his custody, convicted on the charge of child-murder; one prisoner, named Betty Eccles, was found guilty and executed for the murder of three children, in 1843, immediately before he became Governor of the Gaol.

The Coroner for Stockport, in an experience of 13 years, has held three inquests of alleged child murder. One proved to be accidental death; in one the parties were acquitted; and the third was the case of Gibbons, already referred to by Mr. Justice Wightman.

The Coroner of Salford, in an experience of 22 years, has held only one inquest of child murder, alleged to have reference to a burial society; and that was the case tried before Mr. Baron Martin last December, when the parties were acquitted, and the evidence showed that they neither expected nor received the sum insured.

The Chief of Police at Stockport, during 15 years, part of which time he was connected with the police at Manchester, and during the last nine months at Stockport, has never had a case of child murder brought under his notice.

The Registrar of Births and Deaths in a district at Manchester, containing a population of 44,000, remembers no case of child murder; and does not believe that burial money has been a temptation at all to infanticide.

The Rev. Mr. Clay, Chaplain of Preston Gaol, who has published a pamphlet on this subject, stated that he is not directly cognizant of any case of child murder for the sake of burial money, but that it is his opinion that the tendency of burial clubs is to induce neglect of an ailing child.

Your Committee draw from the evidence adduced before them this conclusion, that the instances of child murder, where the motive of the criminal has been to obtain money from a burial society are so few as by no means to impose upon Parliament an obligation, for the sake of public morality, to legislate specially with a view to the prevention of that crime.

Your Committee refer to the evidence to show that no sufficient grounds exist for the general suspicion which seems to have been entertained on this subject. They believe that suspicion to have been almost entirely founded on the few cases brought to trial, exaggerated by the horror with which the idea of a crime so heinous would naturally be regarded.

A consideration was pressed upon Your Committee by the Judges who gave evidence before them; viz., that it is not allowed by law to any person, rich or poor, to insure the life of another, unless he has a pecuniary interest in the continuance of such life; that an insurance for burial money is at variance with this rule, and if permitted ought carefully to be limited to its avowed object, namely, the sum actually required for the child's funeral. Your Committee, assenting to this principle, have anxiously discussed the best and least objectionable mode of carrying it into effect. One mode suggested was that the

the money should be paid only to the undertaker or person by whom the burial is conducted, which is the direction of the existing law; but it was shown that this has been altogether illusory and inoperative: in many cases no such person as an undertaker is ever employed; the parent purchases the several articles required, and is considered to fill the undertaker's place. Such a rule, if complied with, is evidently disliked by the mass of the people, who desire to have the absolute disposal of the arrangements of the burial of their children.

Your Committee proposed a limit to the amount which may be received on the death of a child, and have fixed that amount at such a sum as, according to the evidence of several witnesses, will fully meet the necessary expenses; and since it was shown that, besides being entered in an independent society, it is the practice in some parts of the manufacturing districts that a child shall belong to a club attached to its school, and to another attached to the factory where it works, Your Committee have endeavoured to provide that the whole sum, whether receivable from one or more societies, shall still not exceed the limit prescribed. They have annexed a condition without which no money shall be payable, viz., that in all cases a medical certificate from a qualified practitioner shall be produced. If the child has been attended in its sickness by such a person, the entry of the registrar of births and deaths will be sufficient; if not, the parent must call in some surgeon to view the child after its decease, to certify the cause of death. Your Committee are persuaded that no reasonable objection can be made to this regulation; it will be a protection to the society, and may tend to ensure a more certain medical attendance upon ailing children in all cases; and the cost of calling in such medical aid forms one of the items of expense which has been taken into account in fixing the sum allowed to be received upon the death of a child. These conditions they have made obligatory on all societies which ensure burial money on the death of a child under 10 years old, whether registered or not.

One other subject only remains to be noticed in this Report; namely, the anomalous position of societies originally enrolled under Friendly Societies Acts, before there was any limit fixed beyond which it should be illegal to carry their operations. Several societies so enrolled have conducted their business to an extent similar to that of assurance companies. All the privileges granted by their original Acts have, one by one, been repealed; the chief of these were a power of investing with the National Debt Commissioners, at an advanced rate of interest, exemption from stamp duty, and the right of leaving money, payable on the death of a member, to his nominee. Whilst these privileges have been withdrawn, these societies have still been under restrictions which are not imposed upon other assurance companies registered under the Joint Stock Companies Act. Their case was fully entered into by a Select Committee which sat in 1852, and in the evidence then reported all particulars may be learned.

Your Committee concur with that former Committee in thinking that these societies should be dealt with exceptionally, and that an Act should be passed withdrawing them altogether from the provisions of the Friendly Societies Act, except such as are indispensable for the maintenance and protection of their original constitution, which it would be a violation of the faith of Parliament to destroy.

Your Committee have amended the Bill referred to them, and now report it to The House.

26 *July* 1854.

PROCEEDINGS OF THE COMMITTEE.

Mercurii, 24° *die Maii*, 1854.

MEMBERS PRESENT:

Mr. Adderley.
Viscount Goderich.
Mr. Evelyn Denison.
Mr. Sotheron.
Mr. Bonham Carter.
Mr. Edward Egerton.
Mr. Mowbray.
Mr. Gregson.
Mr. Foley.
Mr. Wickham.
Mr. Hindley.
Mr. Atherton.
Mr. Warner.

Mr. SOTHERON called to the Chair.

The Committee considered the course of their Proceedings.

[Adjourned to Friday, at Twelve o'clock.

Veneris, 26° *die Maii*, 1854.

MEMBERS PRESENT:

Mr. SOTHERON in the Chair.

Mr. Adderley.
Mr, Mowbray.
Mr. Edward Egerton.
Mr. Hindley.
Viscount Goderich.
Mr. Bonham Carter.
Mr. Foley.
Mr. Warner.
Mr. Evelyn Denison.
Mr. Wickham.
Mr. Atherton.
Mr. Gregson.

Preamble postponed.

The Committee proceeded to consider the clauses of the Bill.

Mr. *Tidd Pratt* called in, and examined.

[Adjourned to Monday, at Twelve o'clock.

Lunæ, 29° *die Maii*, 1854.

MEMBERS PRESENT:

Mr. SOTHERON in the Chair.

Mr. Mowbray.
Mr. Hindley.
Viscount Goderich.
Mr. Bonham Carter.
Mr. Foley.
Mr. Evelyn Denison.
Mr. Adderley.
Mr. Warner.
Mr. Gregson.
Mr. Edward Egerton.
Mr. Wickham.
Mr. Seymour Fitzgerald.
Mr. Fitzroy.

Clauses of the Bill further considered.

Mr. *Tidd Pratt* called in, and further examined.

[Adjourned to Monday, the 12th June, at Two o'clock.

Lunæ, 12° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. SOTHERON in the Chair.

Mr. Edward Egerton.	Mr. Bonham Carter.
Mr. Mowbray.	Mr. Wickham.
Mr. Gregson.	Mr. Evelyn Denison.
Mr. Fergus.	Mr. Adderley.
Mr. Hindley.	Mr. Atherton.
Viscount Goderich.	Mr. Foley.

Clauses of the Bill further considered.

Mr. *Tidd Pratt* called in, and further examined.

[Adjourned to Friday next, at Twelve o'clock.

Friday, 16° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. SOTHERON in the Chair.

Mr. Edward Egerton.	Mr. Atherton.
Mr. Mowbray.	Mr. Wickham.
Mr. Adderley.	Mr. Bonham Carter.
Mr. Hindley.	Mr. Warner.
Viscount Goderich.	Mr. Seymour Fitzgerald.
Mr. Evelyn Denison.	Mr. Fitzroy.
Mr. Foley.	Mr. Gregson.

The consideration of the clauses of the Bill proceeded with.

Mr. *Glover* called in, and examined.

Committee deliberated.

MS. Clause proposed by the Chairman (in place of Clause XIX.) brought up, read 1° and 2° as follows: "The Trustees of every society established under this Act, or already established under any former Act relating to Friendly Societies, may, from time to time, with the consent of the committee of management of such society, or of a majority of the members of such society, in accordance with the rules thereof, invest any part or the whole of the funds thereof in any savings bank to any amount, or with the Commissioners for the Reduction of the National Debt, or in such other security as the rules of such society may direct, with such consent as aforesaid, not being the purchase of house or land; and the trustees of such society may, out of the funds thereof, subscribe to any hospital, infirmary, charitable or other provident institution, such annual or other sum as may be agreed upon by the committee of management, or by a majority of the members, in consideration of any member of such society, his wife, child, or relative being eligible to receive the benefits of such hospital or other institution, according to the rules thereof."

Amendment proposed after the word "being," line 8, to insert the words "merely personal security or," (Mr. *Mowbray*). Question put that those words be there inserted. Committee divided:

Ayes, 7.	Noes, 6.
Mr. Mowbray.	Mr. Adderley.
Mr. Egerton.	Viscount Goderich.
Mr. Foley.	Mr. Wickham.
Mr. Hindley.	Mr. Atherton.
Mr. Evelyn Denison.	Mr. Warner.
Mr. Fitzgerald.	Mr. B. Carter.
Mr. Fitzroy.	

Clause further amended, and added to the Bill.

[Adjourned to Monday next, at Twelve o'clock.

Lunæ, 19° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. SOTHERON in the Chair.

Mr. Edward Egerton.	Mr. Fitzroy.
Mr. Mowbray.	Mr. Wickham.
Mr. Fergus.	Mr. Adderley.
Mr. Hindley.	Mr. Warner.
Viscount Goderich.	Mr. Atherton.
Mr. Bonham Carter.	Mr. Fitzgerald.

The following witnesses were examined: Mr. Justice *Wightman*, Mr. *Gibbs*, Governor of Kirkdale Goal.

Committee deliberated and proceeded to examine Mr. *Dunstan*, Mr. *Henry Coppock*, the Reverend *John Clay*.

[Adjourned to Friday, at Twelve o'clock.

Veneris, 23° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. SOTHERON in the Chair.

Mr. Mowbray.	Mr. Adderley.
Mr. Edward Egerton.	Mr. Fitzroy.
Mr. Bonham Carter.	Mr. Gregson.
Mr. Hindley.	Mr. Warner.
Mr. Foley.	Mr. Wickham.
Mr. Atherton.	Mr. Fitzgerald.
Viscount Goderich.	Mr. Fergus.

The following witnesses called in and examined: Mr. Baron *Alderson*, Mr. *Charles Hudson*, Mr. *William Smalley Rutter*, Mr. Baron *Martin*, Mr. *Thomas Worthington*, *William Aitken*, *Josh. Brown*, The Lord Chief Baron.

[Adjourned to Monday, at Twelve o'clock.

Lunæ, 26° *die Junii*, 1854.

MEMBERS PRESENT:

Mr. SOTHERON in the Chair.

Mr. Edward Egerton.	Mr. Adderley.
Mr. Foley.	Mr. Evelyn Denison.
Mr. Hindley.	Mr. Mowbray.
Viscount Goderich.	Mr. Fitzroy.
Mr. Bonham Carter.	Mr. Warner.
Mr. Gregson.	Mr. Fergus.

The following witnesses were called in, and examined: Mr. *John Lenegan*, Mr. *James Daly*, Mr. *Thomas Briggs*, Mr. *George Candelet*, Mr. *William Rea*, Mr. *Squire Auty*, Mr. *Samuel Moreton*.

[Adjourned to To-morrow, at Twelve o'clock.

Martis, 27° die Junii, 1854.

MEMBERS PRESENT.

Mr. SOTHERON in the Chair.

Mr. Gregson.	Mr. Bonham Carter.
Mr. Edward Egerton.	Mr. Foley.
Mr. Hindley.	Mr. Fergus.
Viscount Goderich.	Mr. Adderley.

Committee deliberated.

Mr. *Daly* and Mr. *G. Candelet* were called in and examined.

[Adjourned to Friday, at Twelve o'clock.

Veneris, 30° die Junii, 1854.

MEMBERS PRESENT.

Mr. SOTHERON in the Chair.

Mr. Adderley.	Mr. Foley.
Mr. Mowbray.	Mr. Fergus.
Mr. Edward Egerton.	Mr. Wickham.
Mr. Hindley.	Mr. Warner.
Viscount Goderich.	Mr. Evelyn Denison.
Mr. Bonham Carter.	Mr. Gregson.
Mr. Fitzroy.	

Clause 3, "Money payable on the death of a child under ten years of age upon the certificate of medical man," read 1°.

Question, "That this clause be now read a second time," put, and negatived.

MS. Clause (Mr. *Fitzroy*) (being Clause 3 of existing Act, 13 & 14 Vict. c. 115) "No sum to be paid on the death of a child except for funeral. Certificate of surgeon or coroner be required before money is paid on death of a member," brought up and read 1°. Question put, That this Clause be now read a second time. Committee divided :—

Ayes, 1.	Noes, 10.
Mr. Fitzroy.	Mr. Adderley.
	Mr. Mowbray.
	Mr. Egerton.
	Mr. Hindley.
	Viscount Goderich.
	Mr. Foley.
	Mr. Bonham Carter.
	Mr. Fergus.
	Mr. Wickham.
	Mr. Warner.

Clauses further considered.

Motion made and Question put, "That provision be made in the Bill, 'That it shall not be lawful to insure a sum payable on the death of any one child in more than two societies,'" (Mr. *Mowbray*). Committee divided :—

Ayes, 3.	Noes, 7.
Mr. Mowbray.	Mr. Adderley.
Mr. Egerton.	Mr. Bonham Carter.
Mr. Hindley.	Viscount Goderich.
	Mr. Foley.
	Mr. Fergus.
	Mr. Wickham.
	Mr. Warner.

Clause 4 (penalty for establishing societies, &c., except under this Act or the Joint Stock Companies Act) read 1°. Question, "That this clause be now read a second time;" put, and negatived.

Mr. *Elias William Watson* and Mr. *Thomas Spearing*, called in; and examined.

[Adjourned to Monday next, at Twelve o'clock.

Lunæ,

Lunæ, 3° *die Junii*, 1854.

MEMBERS PRESENT.

Mr. Sotheron, in the Chair.

Mr. Foley.
Mr. Gregson.
Mr. Mowbray
Mr. Fergus.
Mr. Edward Egerton.
Mr. Fitzgerald.
Viscount Goderich.
Mr. Fitzroy.
Mr. Wickham.
Mr. Warner.
Mr. Atherton.
Mr. Bonham Carter.
Mr. Adderley.

The Committee deliberated.

Clauses of the Bill further considered.

[Adjourned to Thursday, at Twelve o'clock.

Jovis, 6° *die Julii*, 1854.

MEMBERS PRESENT.

Mr. Sotheron, in the Chair.

Mr. Mowbray.
Mr. Gregson.
Viscount Goderich.
Mr. Bonham Carter.
Mr. Warner.
Mr. Foley.
Mr. Adderley.
Mr. Wickham.
Mr. Edward Egerton.
Mr. Fitzroy.
Mr. Fitzgerald.
Mr. Fergus.
Mr. Hindley.

Draft Report, proposed by the Chairman, read 1°, as follows:

"Your Committee applied themselves in the first place, in accordance with the prayer of numerous petitions, and the recommendations of two previous Select Committees, to consolidate the law relating to Friendly Societies. In the first clause of this Bill they have repealed all previous Acts, and have placed societies established under any of them upon the same footing as if they had been established under the present Bill, without prejudic to existing contracts with their members.

"In the second clause, which describes the objects for which Friendly Societies may be established, they have re-enacted the laws of the existing Acts, with the following amendments; viz., they have given a wider circle of relatives to whom money may be made payable on the death of a member, by a writing signed by him, and deposited with the secretary; and they have omitted the proviso, that a justice of the peace shall be a trustee of all Emigration Societies, because it has been stated in many petitions, that these words were erroneously supposed to be applicable to all kinds of societies. They have also amended the proviso to Clause 2, by omitting all limitation of the amount of sick pay.

"Your Committee received some valuable evidence on the subject of the third clause; and in a later part of this report will be found a summary of the evidence, and a statement of the manner in which Your Committee have dealt with this part of the Bill.

"Your Committee have withdrawn Clause 4, which required all societies to be registered. The object of that clause, as originally drawn, was to insure that in all societies, whether registered or not, the same conditions should be observed in regard to the payment of burial-money. This object is provided for by the amendment made in that clause itself. Your Committee, however, taking into their consideration the state in which members of unregistered societies find themselves, from being unable to have recourse to a remedy by law if they should be defrauded or unfairly treated by the officers of these societies, are of opinion that this, which has hitherto been treated as a privilege, ought rather to be extended as a matter of justice and policy, for the protection of the members of all societies, and they have therefore introduced a clause, giving a power to the members of all Friendly Societies,

unregistered as well as registered, to sue and be sued as amongst themselves and their own officers. In this respect, the difference between registered and unregistered societies hereafter will be, that the former, being incorporated by law, will be capable of sustaining or bringing a suit against persons not of their own body. The latter will have no such power except as between themselves.

"Your Committee have sanctioned the establishment of a Board of unpaid Commissioners, in accordance with the recommendation of the Select Committee which sat in 1849, and another which sat in 1852. There was evidence furnished to each of those Committees to show that some public centre of inspection was required, to which persons might apply when desirous of establishing a society, or of remodelling one; or of ascertaining the best mode of dealing with the pecuniary condition of a society not yet insolvent, but virtually in its decline.

"The Registrar has properly nothing to do with any of these questions, his office is to see that the rules of the society, sent to him for registration, are drawn up according to law, contain the provisions required by law, and nothing contrary to it. But his certificate is constantly appealed to, under a mistaken notion that implies his approval of the rules, or an authoritative sanction of the tables; and this mistake has led to frequent disappointments and injury, which, it appears to your Committee, can only be removed by establishing a department independent of the Registrar, which shall afford that kind of assistance which it is not his business to give.

"Your Committee have assigned to this Board the power which former Acts gave to the Attorney-general, of sanctioning the formation of a society similar, though not identical with, any of those enumerated in the second clause, and even of dispensing with some of the provisions of this Act, in cases where circumstances render it impossible or highly inconvenient to societies to comply, and which consequently cannot obtain from the Registrar a legal certificate.

"Your Committee have more clearly defined the duties of the Registrar, omitting certain discretionary words, which have sometimes led to imputations of a want of uniformity in his decision. They have also erased from the Bill the fees hitherto payable upon registration; for this reason, that since Parliament has withdrawn the principal privileges which formerly were an inducement to societies to register, it is a mistaken policy to deter them by a fee, which though trifling in amount, is sometimes a real obstacle, and more often a plea, with the managers of societies, from abstaining from acquiring a legal character.

"In regard to the settlement of disputes, your Committee have followed the existing law, by declaring that they shall be settled in such manner as the rules shall direct, whether that be by an ordinary method of appeal amongst the members, or by arbitration, or by justices, or by the County Courts. Questions respecting the removal of a trustee, or any misapplication of funds, your Committee refer to the County Courts; but in case any officer or member should fraudulently obtain possession of the monies or securities of a society, immediate recourse may be had without delay to a justice, lest the misdoer might make away with his theft before the judge of the County Court should hold his next sittings, or be in a condition to interfere.

"The subject of child murder, alleged to be induced by the temptation of funeral money, having been referred to in the House by several Members, and having occasioned great uneasiness in the various burial societies throughout the kingdom, received particular attention from your Committee.

"Four judges, two governors of prisons, two coroners, one chief of police, one chaplain of a prison, and one solicitor, who had been engaged in a prosecution for child murder, gave evidence before your Committee. Letters also from inspectors of factories, in answer to inquires from the Secretary of State, were produced before them.

"The substance of their evidence was this: Mr. Justice Wightman did not remember to have tried more than one case of child murder, namely, that of Honnor Gibbons and Bridget Garrett, for the murder of a child of the former, nine months old, the inducement being a sum of four pounds, receivable from a Burial Society. These parties were convicted.

"Mr. Baron Alderson did not remember to have tried any case of child murder, but depositions on such a charge having been laid before him, he noticed that crime specially in addressing the grand jury at Liverpool last December, and the grand jury thereupon made a presentment, to the effect that the interference of the Legislature was called for to put a stop to the system of money payments by Burial Societies. The prisoners however so charged, having been tried before Mr. Baron Martin, were acquitted, and that Judge informed us that there were no grounds at all for connecting the alleged crime with the receipt of funeral money. Mr. Baron Martin also informed the Committee that no other case of child murder had ever been brought before him in his experience, where the motive of burial money was alleged.

"Chief Baron Pollock gave the Committee information respecting a well-known case, tried at Chelmsford in 1850, when a woman named May was found guilty of poisoning her husband, and attempting to poison a grown-up son; and one at Lewes in 1849.

"He

"He also recollected other cases to have come under his notice, where the burial money was proved, or appeared to him to have been the temptation, though it was of so small an amount as between 20*s.* and 40*s.*

"The Governor of Chester Gaol recollected only four prisoners, since 1841, committed to his custody on this charge; two of whom were acquitted and two convicted; one being the case above referred to by Mr. Justice Wightman.

"The Governor of Kirkdale Prison, in an experience of 10½ years, has had no prisoner in his custody, convicted on this charge; one prisoner, named Betty Eccles, was found guilty and executed for the murder of three children, in 1843, immediately before he became over nor of the Gaol.

"The Coroner for Stockport, in an experience of 13 years, has held only three inquests of alleged child murder. One proved to be accidental death; in one the parties were acquitted; and the third was the case of Gibbons, already referred to by Mr. Justice Wightman.

"The Coroner of Salford, in an experience of 22 years, has held only one inquest of child murder, alleged to have reference to a Burial Society; and that was the case tried before Mr. Baron Martin last December, when the parties were acquitted, and the evidence showed that they neither expected nor received the sum insured.

"The Chief of Police at Stockport, during 15 years, part of which time he was connected with the police at Manchester, and during the last nine months at Stockport, has never had a case of child murder brought under his notice.

"The Registrar of Births and Deaths in a district at Manchester, containing a population of 44,000, remembers no case of child murder; and does not believe that burial money has been a temptation at all to infanticide.

"The Rev. Mr. Clay, Chaplain of Preston Gaol, who is well known to have directed his attention for many years to this subject, stated that he is not directly cognizant of any case of child murder for the sake of burial money, but he is quite satisfied from inquiries he has made, that the tendency of burial clubs is to induce a neglect of an ailing child; and he is confirmed in this opinion by the rate of mortality in members of clubs, which at Preston, as shown in his Report of 1843, was 62 to 64 per cent. of children under five years of age, whilst the general rate was 56 per cent.

"Mr. Clay furnished to the Board of Health a Return of Trials for Child Murder since 1841, which contains all the cases referred to by previous witnesses, together with others, including acquittals as well as convictions.

"The convictions for murder of children in the course of these 13 years on this list are,

1841 - -	Robert Sandys - - - - -	Chester.
1843 - -	Betty Eccles - - - - -	Liverpool.
1846 - -	John Rodda - - - - -	York.
1853 - -	Honor Gibbons and Bridget Garrett -	Chester.

"The convictions for murder of grown persons, in the same period, are,

1847 - -	Sarah Chesham - - - - -	Chelmsford.
1847 - -	Mary Anne Milne - - - -	Lincoln.
1847 - -	Anne Mather - - - - -	Liverpool.
1848 - -	Mary May - - - - -	Essex.
1850 - -	William Ross - - - - -	York.

"Letters were furnished to your Committee by the Secretary of State, from Mr. Howell and Mr. Horner, Inspectors of Factories, enclosing letters from three sub-inspectors, and several certifying surgeons, in Lancashire, to whom they had applied for information, in which no case is mentioned in addition to those before-mentioned, except one, that of a prisoner named Robert Standing, convicted in 1838, and two others at Bolton and at Skipton, the names and dates of which are not stated.

"Your Committee draw from the evidence adduced before them this conclusion: that child murder is not a prevailing crime in the densely peopled districts, where it is commonly reputed to exist; that on the contrary, in proportion to the numbers of the population, it is a crime exceedingly rare; and that the instances, where the motive of the criminal has been to obtain money from a Burial Society, are not numerous enough to justify the opinion, that it is necessary for the sake of public morality that a legislative safeguard should be attempted to be imposed on the people of this country.

"Your Committee refer to the evidence to show, that beyond the amount of actual proof by trial, they have been unable to obtain any authentic account of the grounds upon which

common rumour and general suspicion have been drawn; they incline to think that they rest on a narrow foundation, exaggerated by the horror which such desperate wickedness produces in all kindly hearts.

"It seems to be commonly believed that many lives of children are yearly sacrificed by neglect, and the use of narcotics and other drugs. Doubtless, the absence of mothers during the whole day, in factories, and the handing over of children from the natural parent to a hired nurse, operates injuriously in respect of the care bestowed upon them; but such results, however we may lament them, do not seem to your Committee to be capable of being checked by any restriction upon the receipt of burial money, which, as a motive or temptation, cannot be compared in amount with the desire of obtaining wages; and this work in factories is the real inducement or obligation on the parent to abandon her infant to the charge of another person.

"A consideration was pressed upon your Committee by the Judges who attended them; viz., that it is not allowed by law to any person, rich or poor, to insure the life of another, unless he has a pecuniary interest in the continuance of such life; that an insurance for burial money is at variance with this rule, and, if permitted, ought carefully to be limited to its avowed object, namely, the sum required for actual interment. Your Committee, assenting to this principle, have anxiously discussed the best and least objectionable mode of carrying it into effect. One mode suggested was, that the money should be paid only to the undertaker, which is the direction of the existing law; but it was shown that this has been altogether illusory and inoperative: no such person as an undertaker is employed in the funeral of many children; the parent purchases the several articles required, and is considered to fill the undertaker's place. It is also objected that such a rule would be likely to lead to jobbing and a monopoly, and it is evidently disliked by the mass of the people, who desire to have the absolute disposal of the arrangements of their childrens' interment.

"Your Committee have adopted a limit to the amount which may be received on the death of a child, and have fixed that amount at such a sum as, according to the evidence of several witnesses, will fully meet the necessary expenses; and since it was shown that, besides entering his child in an independent society, it is the practice in the manufacturing districts that a child shall belong to a club attached to its school, and to another attached to the factory where it works, your Committee have endeavoured to provide that the whole sum, whether receivable from one or more societies, shall still not exceed the limit prescribed. They have annexed a condition without which no money shall be payable, viz., that in all cases a medical certificate from a qualified practitioner shall be produced. If the child has been attended in its sickness by such a person, the entry of the Registrar of Births and Deaths will be sufficient; if not, the parent must call in some surgeon to view the child after its decease, to certify the cause of death. Your Committee are persuaded that no reasonable objection can be made to this regulation; it will be a protection to the society, and to the character of the parent, and will ensure a more certain medical attendance upon ailing children in all cases; and the cost of calling in such medical aid forms one of the items of expense which has been taken into account in giving the sum allowed to be received upon the death of a child. These conditions they have made obligatory on all societies which ensure burial money on the death of a child under 10 years old, whether registered or not.

"One other subject only remains to be noticed in this Report; namely, the anomalous position of societies originally enrolled under Friendly Societies Acts, before there was any limit fixed beyond which it should be illegal to carry their operations. Accordingly, several societies so enrolled have conducted their business to an extent similar to that of Assurance Companies. All the privileges granted by their original Acts have, one by one, been repealed; the chief of which are a power of investing with the National Debt Commissioners, at an advanced rate of interest, exemption from stamp duty, and the right of leaving money, payable on the death of a member, to his nominee. Whilst these privileges have been withdrawn, these societies have still been under restrictions which are not imposed upon other Assurance Companies registered under the Joint Stock Companies Acts. Their case was fully developed before a Select Committee which sat in 1852, and in the evidence then reported, all particulars may be learned.

"Your Committee concur with that former Committee, in recommending that these societies should be dealt with exceptionally, and that an Act should pass withdrawing them altogether from the operation of the Friendly Societies' Act, except such as are indispensable for the maintenance and protection of their original constitution, which it would be a violation of the faith of Parliamant to destroy.

"Your Committee have amended the Bill referred to them, and now report it to The House."

Committee deliberated.

[Adjourned to Monday next, at Twelve o'clock.

Lunæ,

Lunæ, 19° *die Julii*, 1854.

MEMBERS PRESENT:

Mr. SOTHERON in the Chair.

Mr. Mowbray.	Mr. Warner.
Mr. Fitzgerald.	Mr. Wickham.
Mr. Hindley.	Mr. Atherton.
Mr. Bonham Carter.	Mr. Gregson.
Viscount Goderich.	

The Committee proceeded with the Clauses of the Bill.

Three MS. Clauses (Mr. *Fitzgerald*) read 1°, as follows:

A Society may form a permanent guarantee and expense fund by the issuing of debentures.

"Any Friendly Society already or hereafter to be established may, for the purpose of forming a permanent guarantee and expense fund, issue from time to time such a number of paid-up debentures, not exceeding the sum of 5*l.* each, as the actuary to the Commissioners for the Reduction of the National Debt, or an actuary of some Life Assurance Company of at least five years' standing, in London, Edinburgh, or Dublin, shall, by writing under his hand, certify as being safe and proper, such debentures to be in the form set forth in the Schedule to this Act; and the total amount of the money to be received on account of such debentures, together with such other monies as may be mentioned and provided for by the rules of the society, shall form a fund to be applied exclusively in defraying all expenses and charges of management, and in aid of the funds of the society, in the event of the monies received on account of any particular fund or benefit not being sufficient to meet the claims thereon; and in case the said fund shall be applied for any other purposes than those hereinbefore mentioned, every person so misapplying the same shall be personally responsible for the repayment of the amount so misapplied.

Debentures to be registered, and bear interest, but shall not be paid off.

"All such debentures shall be registered in the books of the society issuing the same, and shall bear interest at the rate of 3*l.* 5*s.* per centum per annum, which, together with the amount of such debentures, shall be a first charge on the funds of the society, according to the priority of numbers; and such debentures shall not be chargeable with any stamp duty whatever, and may be transferred by indorsement to any other person; and the holder of every such debenture shall be entitled, by way of bonus, to such a share of the profits of the society as the rules may provide, and as shall be approved of by such actuary as aforesaid, but such debentures shall not be paid off except in case of the dissolution of the society, and no trustee or other officer of the society subscribing a debenture shall be individually responsible for the payment of the same.

Any Society may contract with another Society or Life Assurance Company to take upon themselves its liabilities.

"Any Friendly Society or any Life Assurance Company may, with the assent of and upon such terms as may be approved of by such actuary as in this Act is mentioned, contract with any Friendly Society whatever to take upon themselves all or any of the liabilities of such Friendly Society; and thereupon any member of such society, or person claiming through or on account of a member, in case of non-payment by such society of any monies agreed to be paid to or on account of such member, shall have the same remedy against the contracting society or company, in case the benefit assured to, or liability incurred on account of such member, shall have been undertaken by such society or company, as if such company was a society established under this Act, and the deed of such company had directed that the dispute should be decided pursuant to the provisions of the Acts in force relating to Friendly Societies."

Mr. *Arthur Scratchley*, called in, and examined.

Question, "That these Clauses be now read a second time," put and negatived.

MS. Clauses (Mr. *Atherton*) brought up and read 1°, as follows:

CLAUSE IV.

"In the case of any society established, or to established, for any of the purposes hereinbefore mentioned, and having written or printed rules, but the rules whereof shall not have been sent to the Registrar and certified by him, every dispute between any individual member of any such society and the trustees, treasurer, or other officer or committee thereof, shall be decided, and every such decision shall be enforced, in manner hereinafter provided with respect to disputes and the decision thereof in the case of societies to be established under this Act: Provided always, that nothing herein contained shall be construed to confer upon any friendly or other society, the rules whereof shall not have been

sent to and certified by the Registrar, or on any of the members or officers of any such society, any of the powers, exemptions, or facilities of this Act, save and except as in and by this section is expressly provided.

CLAUSE IX. b.

owers of Board. "And the said Board may authorise the formation and regulation of any future or existing society for any purpose or purposes other than the purposes hereinbefore mentioned, or any of them, provided the same shall be allowed by one of Her Majesty's Principal Secretaries of State as a purpose or as purposes to which the powers and facilities of this Act ought to be extended; and the said Board may also authorise and require the Registrar to give a certificate in the form set forth in the Schedule to this Act (*a*), of the conformity to law of the rules, or new rules, or alterations of rules, of any society established or to be established for any of the purposes hereinbefore mentioned, the rules, or new rules, or alterations of rules of which the Registrar shall have refused or declined to certify, and although such rules, or new rules, or alterations of rules shall not be in strict conformity with the provisions of this Act or any other Act, provided, in the opinion of the said Board such society shall be a society to which the powers and facilities of this Act ought to be extended, and provided satisfactory reasons shall be shown to the said Board for such rules not strictly conforming to the provisions of this Act or any other Act, and the said Board may, for such cause as to them may seem sufficient, dispense with the making of the returns herein required, or any one or more of such returns, from time to time, by any society or societies, the rules whereof are for the time being certified by the said Registrar, and which society and societies is and are for the time being entitled to and in enjoyment of the powers and facilities of this Act, and such dispensation shall and may be and be so expressed for the time during which the rules of such society for the time being, in force and registered, shall continue in force, or for a particular occasion or particular occasions to be named, or for such other period or periods as to the said Board shall seem fit."

Read 2°, amended, and added to the Bill.

[Adjourned to Tuesday, 25th, at Twelve o'clock.

Martis, 25° *die Julii*, 1854.

MEMBERS PRESENT:

Mr. Mowbray.	Mr. Bonham Carter.
Mr. Hindley.	Mr. Foley.
Viscount Goderich.	Mr. Seymour Fitzgerald.
Mr. Warner.	Mr. Gregson.

Mr. SOTHERON in the Chair.

The Committee further considered the Bill, and made several amendments therein.

Preamble read 2°. Question, "That this be the preamble of the Bill," put, and agreed to.

Ordered to report.

Draft Report 2°, and amended. Question, "That this Report, together with the Minutes of Evidence, be the Report to The House," put, and agreed to.

Ordered to report.

EXPENSES OF WITNESSES.

NAME of WITNESS.	PROFESSION or CONDITION.	By what Member of Committee Motion made for Attendance of the Witness.	Date of Arrival.	Date of Discharge.	Total Number of Days in London.	Number of Days under Examination by Committee, or acting specially under their Orders.	Expenses of Journey to London and back.	Expenses in London.	TOTAL Expenses Allowed to Witness.
							£. s. d.	£. s. d.	£. s.
Mr. Edmund Gibbs	Governor of Kirkdale Goal	Chair man	17 March	19 March	3	1	4 4 –	3 3 –	7 7
Mr. Henry Coppock	Magistrates' Clerk	„	18 „	19 „	2	1	5 1 –	4 4 –	9 5
Rev. John Clay	Clergyman	„	18 „	19 „	2	1	5 1 –	2 2 –	7 3
Mr. John Dunstan	Constable of Chester Goal	„	17 „	19 „	3	1	4 4 –	3 3 –	7 7
Mr. Charles Hudson	Coroner of County of Chester	„	22 „	23 „	2	1	4 15 –	2 2 –	6 17
Mr. Wm. S. Rutter	Coroner	„	22 „	23 „	2	1	4 10 –	2 2 –	6 12
Mr. William Aitkin	Schoolmaster	„	22 „	23 „	2	1	4 5 –	2 2 –	6 7
Mr. W. Worthington	Registrar	„	21 „	23 „	3	1	4 – –	6 6 –	10 6
Mr. James Brown	Constable	„	18 „	23 „	6	1	3 14 –	6 6 –	10 –
Mr. James Daly	Collector	„	21 „	27 „	7	1	4 – –	7 7 –	11 7
Mr. John Lenegan	Ditto	„	21 „	27 „	7	1	2 15 –	7 7 –	10 2
Mr. Thomas Briggs	Secretary to Society	„	21 „	27 „	7	1	3 – –	7 7 –	10 7
Mr. George Candelet	Collector	„	21 „	27 „	7	1	3 15 –	7 7 –	11 2
Mr. William Rea	Secretary to Burial Society	„	4 „	27 „	3	1	3 12 –	3 3 –	6 15
Mr. Squire Anty	District Secretary	„	21 „	27 „	7	1	4 8 –	7 7 –	11 15
Mr. Samuel Moreton	Artist	„	25 „	27 „	2	1	2 – –	2 2 –	4 2
								£.	136 14

REPORT

FROM THE

SELECT COMMITTEE

ON

FRIENDLY SOCIETIES BILL;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE.

Ordered, by The House of Commons, *to be Printed*,
26 *July* 1854.

412.

Under 3 *oz.*

FIFTEENTH REPORT

OF THE

DEPUTY KEEPER

OF THE

PUBLIC RECORDS.

[31st MARCH, 1854.]

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.
FOR HER MAJESTY'S STATIONERY OFFICE.

1854.

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THE

FIFTEENTH REPORT

OF

THE DEPUTY KEEPER OF THE PUBLIC RECORDS.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

May it please Your Majesty:—

Pursuant to the Statute made and passed in the Session of Parliament held in the first and second year of Your Majesty's reign, entitled "An Act for Keeping Safely the Public Records," I, the undersigned Deputy Keeper of the Public Records, do hereby most humbly make my Fifteenth Report to Your Majesty, for the year beginning 1st January 1853, and ending 31st December 1853, up to which last-mentioned date this Report is made, except, however, so far as relates to certain particular transactions, herein-after quoted as being subsequent to the said 31st December 1853, which it becomes needful to notice. And, pursuing the plan adopted in my former Reports, I have arranged the matters hereby submitted to Your Majesty under three general heads; the tabular statement from which further details are to be collected being inserted in the Appendix hereto annexed.

I. Proceedings relating to the taking possession of Records, and also to Records not yet in the custody of the Master of the Rolls.

II. Proceedings specially relating to the several Records, or Repositories of Records, brought within the regulations of the Statute.

III. General matters connected with the care and management of the Records, and the Record Establishment.

I. Proceedings relating to the taking Possession of Records, and also to Records not yet in the Custody of the Master of the Rolls.

1. *Accruing Records of the Courts of Common Law, &c.*—The issue of Warrants for the transfer of the Accruing Records of the Courts of Common Law into the custody of the Master of the Rolls, as stated in previous Reports (Twelfth Report, I. § 1; Thirteenth Report, I. § 1; Fourteenth Report, I. § 1), continues to be suspended, in consequence of the impending removal of the Records into the New Repository (III. § 3). It has been ascertained that no inconvenience has resulted to the Officers of the Courts by reason of such suspension.

2. *Accruing Records of the Chancery and Parliament.*—These, according to ancient usage, have been transferred into the custody of the Master of the Rolls, and deposited in the Rolls Chapel, as after mentioned (II. § 27).

3. *Treasury Books and Records.*—The proceedings relative to the transfers of the Documents belonging to Your Majesty's Treasury into the custody of the Master of the Rolls, are fully detailed in very many preceding Reports (Fourth Report, I. § 1; Fifth Report, I. § 6; Sixth Report, I. § 2; Seventh Report, I. § 2, App. II. No. 1; Eighth Report, I. § 8, II. §§ 99, 100, App. I. Nos. 21—24 *a*, App. II. Nos. 11—11 *d*; Ninth Report, I. § 8, II. § 11; Tenth Report, I. § 8, II. § 16; Eleventh Report, II. § 40; Twelfth Report, II. § 41; Thirteenth Report, I. §§ 9, 10, II. § 36, App. No. 2 *a*; Fourteenth Report, I. § 4, II. § 28, App. I. Nos. 1 *a*—1 *c*, 2 *a*, 2 *b*.)

All these Documents were in the first instance deposited in the Rolls House under the charge of Mr. Black, who has resigned his situation as an Assistant Keeper, and the same were then placed in the charge of Mr. Holden and Mr. Sharpe, the Assistant Keepers in the Rolls Chapel Office. In the month of April 1853, the Lords of Your Majesty's Treasury were pleased to transmit to the Master of the Rolls a Report of Messrs. Black, Adrian, and Chance, dated 29th April 1853, referring to their Second Joint Report, dated 2d April 1852, a copy of which Second Report is annexed to my Fourteenth Report (App. I. No. 1 *c.*), and their Lordships at the same time requested his Honour to take charge of the Documents, which by such Report are recommended to be transferred to his custody.

In pursuance of these communications, Mr. Holden, assisted by Mr. Lascelles, a Senior Officer of the Third Class, who had previously had the management of the Documents under Mr. Black, proceeded to the Treasury Chambers and having examined the Documents, they were, on the 13th May 1853, brought into the Rolls House and deposited, together with other Documents, of the like nature, in the second story of the building as after stated (II. § 30).

4. *Papers of the Solicitor to the Treasury.*—An account of these valuable papers is given in the Fourteenth Report (I. § 5), where it is stated that the rooms in which the boxes were placed were so encumbered that any accurate sortation was impracticable; furthermore, that for want of room in the habitable portion of the house, No. 10, Whitehall, where the Documents were then deposited, Mr. Burtt had been compelled to replace in the cellar the greater portion of the Documents brought from thence, and it was therefore proposed to obtain the authority of the Lords of Your Majesty's Treasury, for the purpose of removing them to some more convenient repository. It having been ascertained that the said Documents could for the present be deposited in the Chapter House Branch Record Office, a proposal for removing them thither was accordingly made on behalf of the Master of the Rolls to the Lords of Your Majesty's Treasury, who, by their letter of 6th July 1853, signified their assent to such proposal. The Master of the Rolls therefore, by his Warrant, dated 22d July, 1853, directed the same should be delivered into the charge of Mr. Devon and Mr. Burtt, the Assistant Keepers at the Chapter House, and the same are now deposited there in such manner as is stated in a subsequent portion of this Report (II. § 45).

5. *Admiralty Records.*—An account of the numerous and very bulky masses of Documents belonging to Your Majesty's Board of Admiralty, in the custody of the Master of the Rolls, and the circumstances attending the transmission thereof into such his custody, are fully detailed in several preceding Reports (Second Report, I. § 5, II. § 3; Third Report, I. § 6; Fourth Report, III. § 2; Eighth Report, I. § 4, II. §§ 109, 116, App. I. Nos. 8, 9, and 17; Ninth Report, II. § 16, App. I. No. 13; Tenth Report, I. § 7, II. § 4; Eleventh Report, I. § 4, II. § 2; Twelfth Report, I. § 5, II. § 2; Thirteenth Report, I. § 3; Fourteenth Report, I. § 6). In the Fourteenth Report, in particular, will be found a notice of the correspondence between the Accountant-General of the Navy and the Master of the Rolls, as to the reception of the Documents in the New Repository. In consequence of this correspondence, the Accountant-General of the Navy, by his letter of the 21st February 1854, transmitted a statement showing the number of books, papers, &c., proposed to be forwarded from the Five Departments of the Admiralty in Somerset House to the new Repository of Records, as soon as the same shall be ready to receive them, and also showing the space required for future accumulation to the effect set forth in a subsequent section of this Report (III. § 1.)

6. *Claims of American Loyalists.*—In pursuance of a correspondence between the Home Office and the Lords Commissioners of Your Majesty's Treasury, (Fourteenth Report, I. § 9,) the latter, by their minute of the 21st June 1853, were pleased to move Your Majesty's Secretary of State for the Home Department to instruct the Keeper of Your Majesty's State Papers to transfer fifteen rolls of Reports of Commissioners on American Claims, dated between 1784 and 1788, to the Right Honourable the Master of the Rolls, to be deposited in the Public Record Department, together with the other Documents relating to the same subject, which had been already transferred to this Department by directions of their Lordships' Honourable Board; and his Honour having by his warrant, 2d July 1853, authorized the Deputy

Keeper to take possession of the same, the fifteen rolls have been, and now are deposited in the Rolls House, under the charge of Messrs. Holden and Sharpe, in such manner as hereinafter mentioned (II. § 30). The following is a list thereof:—

List of Fifteen Reports, with Schedules attached, removed from the State Paper Office to the Public Record Department, pursuant to a Treasury Minute, dated 21st June 1853.

1. 1784, August 10.—1st Report of John Wilmot, Esq., Daniel Parker Coke, Esq., Colonel Robert Kingston, Colonel Thomas Dundas, and John Marsh, Esq., Commissioners appointed under the Act of 25 Geo. 3. for inquiring into the losses and services of American Loyalists in America. A Schedule of the Claims and an alphabetical index attached.
2. 1784, December 23.—2d Report of same Commissioners, with a Schedule of the Claims attached.
3. 1785, May 19.—3d Report of same Commissioners, with a Schedule of the Claims attached.
4. 1785, July 12.—4th Report of same Commissioners, with a Schedule of the Claims attached.
5. 1786.—5th Report of the Commissioners on American Loyalist Claims, being the Report of John Wilmot, Colonel Robert Kingston, John Marsh, and Robert Mackenzie; with a Schedule of the Claims attached.
6. 1786, July 25.—6th Report by the last-named Commissioners, with a Schedule of the Claims attached.
7. 1786, December 23.—7th Report by the same Commissioners, with a Schedule of the Claims attached.
   This Report is erroneously dated 1787, but the Schedule is correctly dated 1786.
8. 1787, March 24.—8th Report by the same Commissioners, with a Schedule of the Claims attached.
9. 1787, July 20.—9th Report by the same Commissioners, with a Schedule of the Claims attached.
10. 1787, December 26.—10th Report by the same Commissioners, with a Schedule of the Claims attached.
11. 1788, April 5.—11th Report by the same Commissioners, with a Schedule of the Claims attached.
12. 1786, June 10.—1st Report of Colonel Thomas Dundas, and Jeremy Pemberton, appointed Commissioners for American Claims in Nova Scotia, with a Schedule of the Claims attached (from Halifax).
13. 1786, September 30.—2d Report of the same Commissioners, with a Schedule of the Claims attached (from Halifax).
14. 1788, January 24.—4th Report of the same Commissioners, with a Schedule of the Claims attached (from Montreal).
15. 1788, June 5.—5th Report of the same Commissioners, with a Schedule of the Claims attached (from Montreal).

7. *Census Papers.*—Various communications having taken place between Your Majesty's Registrar-General of Births, Deaths, and Marriages, and the Master of the Rolls (Seventh Report, I. § 3; Eighth Report, I. § 5; Thirteenth Report, I. § 6;) concerning the receipt into this Department of certain Census Papers which could not be conveniently retained by the Registrar-General, he, by his letter of 30th January 1854, requested his Honour to receive into his charge the several Census Books of the years 1841 and 1851, denominated the "Enumerators Books," the same being severally deposited in the vaults under the House of Commons and in the Census Office in Craig's Court. The Registrar-General proposed, in the first instance, that the Documents should be stowed in the New Repository without waiting for the completion of the fittings, but this course not appearing expedient it was agreed that, for the present, the removal should not extend beyond the Documents in the Office in

Craig's Court, and that they should be deposited in the Branch Record Office in the Chapter House, Westminster. It was further agreed that the Documents should be delivered in stout boxes adapted for the temporary preservation thereof, and that when the same should be removed into the New Repository, the Officers under the direction of the Registrar-General should attend and assist in finally arranging the books upon the presses. These Enumerators Books will hereafter acquire great historical and legal value, inasmuch as they contain the particulars respecting each individual noticed in the "Householders' Schedules;" they constitute as complete a nomenclature for the whole population of Great Britain as human industry could frame. They have been deposited in such manner as is herein-after mentioned (II. § 46.)

8. *State Paper Office.*—The proceedings relating to the consolidation of Your Majesty's State Paper Office with the Record Department appear in preceding Reports (Tenth Report, I. § 9, App. I. No. 1; Thirteenth Report, I. § 13, App. No. 1; Fourteenth Report, III. § 3). Further communications have been had with the Lords of Your Majesty's Treasury upon this subject, and pursuant to the directions of the Right Honourable the Master of the Rolls, the Deputy Keeper has made a Report to him thereon, 30th July 1853, in which Report, amongst other matters, a full account is given of the various Government Documents now in the actual charge of the Master of the Rolls. This Report was transmitted by His Honour, 11th January 1854, to the Lords of Your Majesty's Treasury, and copies thereof have also been transmitted to Your Majesty's Principal Secretaries of State, to the Keeper of State Papers, and to the State Paper Commissioners.

9. *Chester Records.*—Much information concerning these Records, as well as relating to the proceedings arising out of the wish expressed by the County Magistrates to retain them in a local repository in Chester Castle, will be found in preceding Reports (First Report, App. No. 31, I. 1 (1), II. 1, 2; Fourth Report, I. § 6; Seventh Report, I. § 6, App. I. Nos. 10 to 18; Eighth Report, App. I. Nos. 18 and 28; Ninth Report, II. § 10, App. I. No. 11; Thirteenth Report, I. § 12, App. Nos. 3 *a* and *b*; Fourteenth Report, II. § 12). Further communications have taken place, of which the result has been that the Master of the Rolls is of opinion that if the County Magistrates should think fit to try the experiment of a temporary Keepership or local Custos, whom they should appoint (with the approval of the Master of the Rolls) at the expense of the County, there might be no objection to the plan; though it was his opinion that the Records of Chester, like all the other outlying Records in Wales and the Palatinates of Durham and Ely, must ultimately be concentrated in the New Repository. This opinion was communicated to Sir Edward Cust as Chairman of the Committee of the Magistrates, 5th August 1853, but no further communications have been received.

10. *Welsh Records: Records of the Great Sessions of the Counties of Caernarvon, Anglesey, and Merioneth.*—Various proceedings relating to the building at Caernarvon, in which Records of the suppressed Court of the Great Sessions of Caernarvon, Anglesey, and Merioneth are deposited, will be found in preceding Reports (Seventh Report, I. § 8; Eighth Report, I. § 7.)

A communication has been received from Mr. Poole, Clerk of the Peace for Caernarvon, 29th January 1853, to the effect that the Magistrates had decided on pulling down the whole of the old building, and re-erecting a new one on its site; and in the said letter, the plans and elevation of the said building were transmitted to the Master of the Rolls. And the Papers having been laid before the Master of the Rolls, his Honour, 29th June 1853, replied that, before any of the Records of the late Court of Great Sessions were deposited in the new building, it would probably be needful that the same should be surveyed and reported upon by some proper person on his behalf; but no further communication has been received of the progress of the building.

II. Proceedings specially relating to the several Records, or Repositories of Records, brought within the Regulations of the Statute.

Carlton Ride; and Stone Tower, Westminster Hall

Records of the Courts of Queen's Bench and Common Pleas, and of the Common Law Side of the Court of Exchequer; Equity Records of the Court of Exchequer; Records of the Revenue Side of the Court of Exchequer; Records of the Palace Court; &c.—(Assistant Keepers, the Rev. Joseph Hunter, Mr. Roberts, and Mr. Nelson.)

Mr. Hunter's Division.

1. *Business of the Division.*—The ordinary business of this Division appears from the tabular summary (App.).

2. *Queen's Remembrancer's Miscellaneous Records.*—When Mr. Hunter first entered upon his duties with respect to these most valuable Records, he found them in the utmost confusion, without any Calendar; and the task of bringing them into order, which has been described in every preceding Report (First Report, II. § 4; Second Report, II. § 22; Third Report, II. § 2; Fourth Report, II §§ 2, 5, 8; Fifth Report, II. § 4; Sixth Report, II. § 2; Seventh Report, II. § 69; Eighth Report, II. § 78; Ninth Report, II. § 27; Tenth Report, II. § 22; Eleventh Report, II. § 14; Twelfth Report, II. § 13; Thirteenth Report, II. § 22; Fourteenth Report, II. § 17;) has been performed solely by himself, without assistance from any one, excepting those officers who have worked under his immediate direction. When Mr. Hunter entered on these operations, he laid it down as a principle that the proper course of proceeding was, (1) the cleansing and repairing of the Documents, many of which were in a state of great decay; (2) the ascertaining and forming a written description of each Document, or set of Documents; (3) the throwing these descriptions into the class into which he found these Miscellanea, as they had been called, admitted of being distributed, and required to be distributed to make them serviceable, and which has been laid before Your Majesty (First Report, App. Nos. 33 and 34 *a*); (4) to revise the descriptions by comparison with the Documents, with the further lights and advantages which the familiarity with these had given him; and lastly, to digest them in properly constructed Calendars. The Documents which had been cleaned, covered, entitled, and their nature ascertained and described, and placed temporarily in boxes previously to the preparation of more suitable repositories to receive them, as returned in my last Report to Your Majesty, were in number 85,692, many of the units being made up of divers instruments, each requiring a particular notice. To this number there has been added 1,527 in the course of the year, consisting almost wholly of fragmentary matter, portions of Documents, often of value, but occasionally only of small importance. Whenever practicable, Mr. Hunter has brought these fragments together and united them into one roll. If not containing a date, Mr. Hunter has endeavoured to assign a date on such evidence as the Document afforded, and by comparison with others. In both these operations, needing great intelligence, patience, and knowledge, Mr. Hunter has proceeded with due caution; and he has also endeavoured to steer a course between leaving fragmentary portions apparently almost worthless without descriptions, and leaving unascertained and undescribed things which might turn out to be of some value, and worthy to be placed individually in the Calendar to be ultimately formed.

But as the business of ascertainment drew toward a close, the distribution of the descriptions in their classes according to Mr. Hunter's proposed classification, which had gone on almost *pari passu* with the ascertainment in the early stages when there were fewer interruptions, was resumed, and considerable progress has been made therein. Mr. Hunter has begun also another work of arrangement, namely, that of the Documents themselves. This has been done in part from time to time, but it is necessary to pursue it through classes not before distributed, as a part of the preparation for the orderly arrangement of these Documents.

3. *Calendars.*—In the last stage, the revising the descriptions and digesting them in a Calendar for public use, the Calendar of the Escheators' matter for the City of London, from Henry V. to Richard III. inclusive, and for the counties of Oxford and Berks, from Richard II. to 12-13 Henry VI., has been completed in the present year.

The Documents, chiefly fragments, or pieced fragments, which form the 1527 above noticed, are of the following reigns:—

Henry II.	1	Henry VIII.	397
Henry III.	1	Edward VI.	40
Edward I.	76	Philip and Mary	12
Edward II.	15	Elizabeth	193
Edward III.	44	James I.	91
Richard II.	53	Charles I.	235
Henry IV.	19	Interregnum	5
Henry V.	11	Charles II.	106
Henry VI.	87	Anne	2
Edward IV.	25	George II.	3
Richard III.	2	George III.	2
Henry VII.	36	Undetermined	71
			1,527

Mr. Roberts' Division.

4. *Business of the Division.*—The public business transacted, and Fees received during the past year, have been as follows:—

Fees received from 1st January to 31st December, 1853.

——	Searches.	Inspections.	Copies.	Authentications.	Attendances.	Net Amount of Fees.	Total.
						£ s. d.	£ s. d.
Common Pleas, and Palace and Marshalsea Courts	649	- -	- -	- -	- -	32 9 0	—
	- -	95	- -	- -	- -	4 15 0	—
	- -	- -	352	- -	- -	47 13 6	—
	- -	- -	-	333	- -	38 4 6	—
							123 2 0
Queen's Bench	68	- -	-	- -	- -	3 8 0	—
	- -	92	- -	- -	- -	4 12 0	—
	- -	- -	36	- -	- -	18 10 0	—
	- -	- -	- -	21	- -	12 16 6	—
	- -	- -	- -	- -	1	2 2 0	—
							41 8 6
Exchequer	79	- -	- -	- -	- -	3 19 0	—
	- -	283	- -	- -	- -	14 3 0	—
	- -	- -	203	- -	- -	67 13 0	—
	- -	- -	- -	102	- -	40 12 0	—
							126 7 0
Total for 1853	796	470	591	456	1	- -	290 17 6
Total for 1852	778	401	559	496	3	- -	252 16 6
Increase in 1853	-	-	-	-	-	-	£38 1 0

It will be seen from the above Table that the sum taken in this Division in Fees in 1853 is 38*l.* 1*s.* above the amount of 1852, notwithstanding the diminution which has been caused in the receipts by persons who have availed themselves of the permission granted by the Master of the Rolls for the gratuitous use of the Records as "Literary Inquirers."

5. *Receipts or Transfers of Records.—Exchequer of Pleas.*—On the 24th June 1853 a large mass of Records were brought from the Exchequer of Pleas Office to Carlton Ride, pursuant to Warrant dated 27th May 1853, as stated in the Fourteenth Report (I. § 1; II. § 2.) The following is an alphabetical list of the Documents so received:—

CLASS.	DATE.
Affidavits of Increase	M. 1830 to M. 1832.
Affidavits used on Motions	M. 1830 to M. 1832.
Affidavits of Service	H. 1841 to Jan. 1845.
Appearance Files	H. 1841 to M. 1844.
Appearance Books	H. 1841 to M. 1844.
Bail Files, Series I. (called Black)	M. 1837 to T. 1838.
Ditto, Series II. (called Special)	M. 1837 to M. 1842.
Bills of Costs (Taxed)	H. 1838 to M. 1844.
Cognovits	Nov. 1830 to Dec. 1831.
Cognovits and Warrants of Attorneys	Jan. to Dec. 1832.
Declarations	H. 1841 to M. 1844.
Ditto, remaining in the Office, Indexes to	H. 1841 to M. 1844.
Dockets of Judgments (Books)	M. 1830 to M. 1832.
Ejectments and Affidavits of Service	M. 1830 to M. 1832.
Judgment or Memoranda Rolls	M. 1830 to M. 1832.
Præcipes for Issuing Writs of Summons	H. 1841 to M. 1846.
Præcipe Books, called "Quo Minus" and "Venire facias"	M. 1830 to M. 1832.
Rule Books	M. 1830 to M. 1832.
Term Papers	M. 1830 to M. 1832.
Warrants of Attorney	Nov. 1830 to Jan. 1832.
Writs (returned) Index Books	H. 1843 to E. 1845.
Writs returned (small)	H. 1841 to M. 1843.
Ditto ditto	H. 1844 to E. 1845.
Writs returned (large)	H. 1841 to M. 1842.

Inventories, &c.

6. *Depositions* (*Exchequer, Queen's Remembrancer*).—The Index Books of the Depositions have been collated with the original Documents, and proper descriptive tickets, printed in the office, are attached to each set of proceedings. About 1,497 sets of Depositions have been done to the 39th Elizabeth; and it is expected that this reign will be speedily completed.

7. *Particulars for Grants* (*Exchequer*).—The Inventory and Indexes of these Documents have been repeatedly noticed in my preceding Reports (Seventh Report, II. § 60; Eighth Report, II. § 62; Ninth Report, II. § 58; Tenth Report, II. § 39; Eleventh Report, II. § 31; Twelfth Report, II. § 30; Thirteenth Report, II. § 13; Fourteenth Report, II. § 12.) They have been continued as follows:—

Edward VI.—The Inventory for the reign of Edward VI., which, in the Fourteenth Report (II. § 12), was stated to have been made to the letter W., has been completed to the end of the reign. The Documents have been tied up in parcels, with descriptive tickets of contents on each, and placed in portfolios.

The Indexes of persons and places for this reign have been continued from the middle of letter C. to the middle of letter H.

Philip and Mary.—The Inventory for the reign of Philip and Mary, which in the Fourteenth Report (II. § 12) was stated to have been made to part of letter R., has been completed to the end of the reign; and Indexes of persons and places for the whole of the reign have been made. The Documents have been tied up in parcels, with descriptive ticket of contents on each, and placed in portfolios.

Elizabeth.—The Inventory for the reign of Elizabeth has been made to the middle of letter K., with Indexes of persons and places to the same, the plan having been adopted of making the Index concurrently with the Inventory.

Miscellaneous.—A variety of miscellaneous Particulars for Grants (the Grantee and date of many of which do not appear) have also been sorted, numbered, ticketed, and inventoried, with Indexes of persons and places for the same, by Messrs. Hunt and Turner.

These Indexes will be found highly useful in all searches relating to Real Property, whether monastic or otherwise, derived by Grant from the Crown.

The Particulars being the foundation of the Grants frequently convey more information than is found in the Patents which were issued pursuant thereto. They also furnish a sufficient clue for discovering the Patents themselves.

8. *Calendar of the Patent Rolls.*—The pressure of current business has retarded this most useful work (Second Report, App. II. No. 7; Eighth Report, II. § 90; Ninth Report, II. § 6, 24, App. II. Nos. 1 and 8; Tenth Report, II. §§ 9, 14; Eleventh Report, II. §§ 8, 12; Twelfth Report, II. §§ 16, 37; Thirteenth Report, II. § 19; Fourteenth Report, II. § 14.) Mr. Gairdner, however, has completed the draft as far as the 29 Henry VIII., and a large portion being sufficiently perfected to be fit for ordinary consultation, it is intended to deposit the same in the Rolls Chapel Office for the use of the Public. The want of Indexes of Places, which will require some time to prepare, will be not inadequately supplied by the Indexes to the Particulars for Grants (II. § 7.) And the Calendar is so clear and full as to be a perfectly useable abstract of the Roll, not omitting any matter primarily useful to the Searcher; so that, for many practical purposes, it will not unfrequently satisfy the inquirer, without resorting to the original. These reasons have induced the Master of the Rolls to direct that the Calendar in question should be rendered accessible, as affording assistance to a considerable extent, until the means can be found of placing a sufficient number of competent Officers to work thereon when the Establishment shall be located in the New Repository.

Repairs, Arrangements, &c.

Queen's Bench.

9. *Doggett Rolls.*—The operations of flattening, repairing, and re-tieing of these Rolls (Fourteenth Report, II. § 3) have been proceeded with, and 36 Rolls finished. The whole series would have been completed during the year, but from a diminution of force, two of the workmen having been removed to the Rolls House.

Common Pleas.

10. *Early Feet of Fines.* (Rich. I. to Rich. III. in counties.)—The operations on these Records, noticed in several preceding Reports (Ninth Report, II. § 43; Tenth Report, II. § 31; Eleventh Report, II. § 22; Twelfth Report, II. § 23; Thirteenth Report, II. § 4; Fourteenth Report, II. § 5) have been continued, and 9,328 Documents have been flattened, guarded, mended when necessary, and stamped, and are in course of being placed in cases. The County of Kent is completed, and the Counties of London and Middlesex, and Norfolk, are in hand and nearly finished.

11. *Modern Feet of Fines.* (Edward VI. to William IV., in terms.)—The operations upon these Records have been continued, and 89,216 Documents flattened and stamped, whereof 50,481 have been arranged in 3,506 parcels, according to counties, in alphabetical order, and placed in portfolios. A great portion thereof has been collated with the Index, and mended or repaired when required. The series is completed to 19th Elizabeth. The first seven years of George II., and from 1 George III., to William IV. are also finished.

12. *Concords of Fines.*—The operations on these Records, detailed in the previous Report (Fourteenth Report, II. § 7), have been continued, and 146,076 Documents have been cleaned and stamped. These have been sorted and connected in their respective suits forming 48,821 suits, and repaired when needful. The reigns of George IV. and William IV. have been finished, and placed in portfolios. The reign of George III. is in hand, and for want of portfolios the Documents are being packed in parcels between mill-boards.

13. *Recovery Rolls.*—The work done on this much used and valuable series of Records has constituted a considerable item in the labours of the year. The Rolls are very large, containing both recoveries and enrolments of deeds, with many plans and maps. The Rolls have been cleaned, the membranes and maps repaired (where necessary), re-bound at the head, and placed flat in strong vellum covers. Those from 13 George I. to 10 George IV. are very nearly completed, and arranged in chronological order. Of that portion of the series previous to 13 George I., some Rolls have at various times in past years been laid flat, and placed in vellum covers, but about 450 Rolls still remain in their

original state. This difference of form necessarily and most inconveniently occasions a division of the series, the flattened Rolls being susceptible of immediate location in their proper places, whilst those which are circular are necessarily separated and deposited elsewhere. Mr. Roberts proposes, therefore, to proceed as quickly as possible with these Rolls, and hopes to have the whole flattened and placed in covers during the current year, so that the whole series may be arranged together in continuous and chronological order.

Exchequer: Queen's Remembrancer.

14. *Bills and Answers.*—The works upon these Documents have been continued (Tenth Report, II. § 34; Eleventh Report, II. § 27; Twelfth Report, II. § 26; Thirteenth Report, II. § 7; Fourteenth Report, II. § 8), and many more reduced into accessible order. Entries have been made on slips of such miscellaneous Bills and Answers as were not found entered in the Bill Books, comprising about 6,680 Documents, which have been laid down in alphabetical order, and bound in a large volume as additional index.

15. *Depositions and Commissions.*—Very many miscellaneous Documents of this class have been collated with the Deposition Books, and a list made of those not previously entered therein, describing the property, &c. The number whereof such list has been made is 1,541. The work is still in progress.

16. *Original Orders*, from 1788 to 1829.—The Records of this series, noticed as not being completed in a previous Report (Fourteenth Report, II. § 9), have been cleaned, laid flat, tied in parcels in terms, and packed in portfolios, with proper tickets thereto.

17. *Original Decrees and Orders.*—A large number of these Records were discovered out of their proper places, among the Miscellaneous in the loft (Fourteenth Report, II. § 11), and they have been sorted into years and terms, and arranged in about 17,000 suits, as supplementary to the regular series. Many have been mended, and the documents are placed in portfolios. The whole are nearly completed.

18. *Pipe Rolls.*—Although the Rolls of this magnificent series of Records, extending from Stephen to George IV., are on the whole in a fine state of preservation, yet there are very few Rolls, if any, which do not, more or less, require repair. As the repair of such Records is a work of great importance, Mr. Roberts has been anxious to commence it, although much progress could not be expected, unless two or three workmen could be constantly engaged thereon; but, during the past year, only one man could be occasionally spared for this purpose. Twelve Rolls of the reign of Henry II. have, however, been thoroughly repaired, and a parchment fly-leaf added to each for further protection.

19. *Lord Treasurer's Remembrancer's and Pipe Records (Miscellaneous).*—The arrangement of this very large mass of Records, as Mr. Roberts found them, appeared to him to be so unsatisfactory, that he determined to try what beneficial alteration could be effected therein. The Documents have been closely packed in very large packages, according to their size and form; *e. g.*, those of single membranes sewn at the head, in one package; those of double membranes sewn at the head, in another; those of consecutive membranes in a third; and those in book form, in a fourth; and consequently the Records relating to one subject are very inconveniently distributed through a variety of packages. To correct these inconveniences, Mr. Roberts proceeds from class to class, collecting them. Thus the Records relating to the *Wardrobe*, whether of the Master, Keeper, or Cofferer, &c., of the Wardrobe, have been brought together from the various packages in which they were distributed; the rough lists previously made have been examined and corrected, or new ones made containing the dates and the names of the Accountants.

The Records relating to the Chamberlain and Paymaster, &c., of the *Household* have been collected and arranged in the same manner; and thus the Documents relating to either of these subjects can at once be placed before an inquirer. This work has occupied a considerable time, but the result is satisfactory; and, whenever opportunity shall admit of it, Mr. Roberts believes it will be very advantageous to proceed in the same manner through the whole mass.

20. *Miscellaneous Volumes.*—Upwards of fifty volumes of Records belonging to this Department (many of them very large) have been strongly re-bound, as the Doggett Books (Queen's Bench and Exchequer), Final Judgments' Books, (Queen's Bench), &c. Also eighteen volumes have been re-bound, and four repaired, belonging to the Court of Wards and Liveries, from the Chapter House.

This branch of work is of the highest importance; for it must be remembered that these Volumes are *Records*, and therefore could not properly be sent out to the Stationery Office, or elsewhere, to be bound. But the force of the Establishment is inadequate to its needs in this respect. The minor operations in sorting, arranging, cleaning, flattening, and repairing, making and correcting lists, &c., are too numerous to be here detailed, but they have all been stated in the monthly returns of work; and the results are found in the Tabular Summary. (App.)

21. *Tabular Summaries of Records.*—Mr. Roberts has continued the general "Conspectus" of the Records in this Repository, and also amended and added to the Divisions of it previously made (Thirteenth Report, II. § 20; Fourteenth Report, II. § 15.) The Divisions of the Exchequer belonging to the Lord Treasurer's Remembrancer's and Pipe Offices, and to the First Fruits and Tenths, have been finished; that of the Augmentation Office is still in progress, and the last. Mr. Roberts has executed this very useful work with great accuracy and clearness.

Tower of London.

Records of the Chancery, Admiralty, &c.—(Assistant Keeper, Mr. Hardy.)

22. *Business of the Division.*—The Business of this Division, for which fees are paid, has been as follows:—

	Searches.	Inspections.	Copies.	Authentications.	Attendances.	Fees.
1853.						£ s. d.
January	1	19	6	-	-	4 18 0
February	1	9	5	19	-	4 14 0
March	-	1	16	-	-	4 9 6
April	1	11	3	-	-	1 0 6
May	-	11	8	2	-	10 10 0
June	-	6	6	-	-	1 2 0
July	1	18	9	3	1	6 8 6
August	3	26	7	1	-	1 19 0
September	2	27	48	45	-	19 13 6
October	-	45	19	3	-	5 11 6
November	-	3	13	13	-	7 11 0
December	32	4	41	27	-	22 19 0
Total	41	180	181	113	1	90 16 6

23. *Inquisitions Post Mortem and Ad quod Damnum.*—The new arrangement of the Inquisitions Post Mortem and Ad quod Damnum mentioned in former Reports (Fourth Report, II. §§ 44, 45; Fifth Report, II. §§ 25, 26; Sixth Report, II. §§ 70, 71; Seventh Report, II. §§ 14, 15; Eighth Report, II. §§ 105, 106; Ninth Report, II. §§ 17, 18; Tenth Report, II. § 5; Eleventh Report. II. § 3; Twelfth Report, II. § 2; Thirteenth Report, II. § 28; Fourteenth Report, II. § 23) is now completed. These Documents are placed in books to the end of the reign of Richard II.; from that time to the period when the Tower Series terminates, they are arranged in portfolios according to a useful plan suggested by Mr. Sanders, an Officer of the third class in this Department, and noticed in a previous Report (Thirteenth Report, II. § 28). Mr. Hardy considers the plan thus adopted as very satisfactory. In the past year 9,838 of these instruments have been entitled, &c., and put into the portfolios in question.

24. *Miscellaneous Records.*—Mr. Hardy has continued the arrangement, repair, and calendaring of the very curious Miscellaneous Records (Fourteenth Report, II. § 25,) consisting of Petitions to the King in Council, Petitions to Parliament, Writs of various kinds, &c. Several thousands have been sorted according

to their nature; the undated Documents are arranged alphabetically, and those with dates are arranged chronologically; of these, 11,740 instruments have been flattened, cleaned, and repaired; 6,123 stitched in parcels of ten preparatory to binding them in boards, and twenty parcels put into boards; of this number, 552 have been calendared, and 3,759 sorted and arranged.

25. *Government Searches, &c.*—The Searches for the Cathedral and Channel Islands' Commissions have been very extensive, and much time has been consumed in attending to literary inquiries.

Rolls Chapel Office.

Records of the Chancery, Privy Signet, &c.—(Assistant Keepers, Mr. Holden and Mr. Sharpe.)

26. *Business of the Division.*—The Business of this Division appears in the following statement:—

Summary of Business done for which Fees have been received:

——	Searches.	Inspections.	Copies and Quantity.	Authentications and Quantity.	Attendances.	Fees.
1853.			Folios.	Folios.		£ s. d.
January	63	113	21= 506	14= 260	3	25 9 0
February	91	186	18= 461	6= 206	1	26 0 0
March	64	104	24= 996	8= 258	—	38 5 0
April	52	95	13= 454	10= 285	—	24 1 6
May	64	149	16= 438	5= 226	—	22 14 0
June	61	179	20= 565	18= 486	1	32 16 0
July	40	74	10= 269	6= 78	—	12 5 6
August	48	104	19= 243	11= 202	—	18 15 6
September	30	97	22= 415	16= 380	—	23 5 6
October	55	87	19= 594	7= 284	—	27 14 0
November	59	179	35= 917	9= 239	—	34 9 6
December	57	192	16= 434	3= 74	3	19 0 0
Total	684	1,459	233=6,292	113=2,978	8	304 15 6

The Composition fee of five shillings for a general inspection of Documents upon one subject during one week has been available in twenty-one Searches and 505 Inspections.

Summary of Business done for which no Fees have been received:—

Seventeen Literary Inquirers occupied 133 days in searching and inspecting 638 Documents and taking copies in pencil.

For the Colonial Office, Copy of Letters Patent erecting the Bishopric of Nova Scotia, Pat. 27 Geo. 3, p. 7, n. 2, 26 folios.

For the Commissioners of Patents for Inventions by Mr. Woodcroft and his Agents, searching Indices, seventy-two Inspections, sixteen copies consisting of 553 folios and five sets of drawings.

For the Lord Chancellor by the direction of the Master of the Rolls; General search for all Grants or Charters of Incorporation containing licences to hold Real Estates in Mortmain and Special Licenses in Mortmain granted in the years 1832, 1833, and 1834, and supplying extracts.

The demands upon the time of the Officers in this Department for the purpose of attending to Literary Inquirers, and also for Government services, have been considerable. In addition to the business of the Rolls Chapel Office, the Documents in the Rolls House, heretofore in the charge of Mr. Black, have been placed under the charge of Mr. Holden and Mr. Sharpe; the business is nevertheless transacted by Mr. Lascelles and Mr. Knight, as before (Fourteenth Report, II. § 28), but all Copies required from the Rolls House are authenticated by Mr. Holden or Mr. Sharpe, Messrs. Lascelles and Knight not being authorised, under the provisions of the Act, to authenticate Documents.

27. *Transmissions of Records.*—According to the ancient course of the Chancery, the following Records have been transmitted into this Office, during the year, viz.:—

From the Enrolment Office:—

The Recognizance Rolls of 1837, (two parts).
The Close Rolls of 1838, consisting of 199 parts.
The Recognizance Rolls of 1838 (2 parts).
Twelve monthly Bundles of Memorials of Grants of Life Annuities of 1838.

From the Petty Bag Office:—

The Patent Rolls of 5 Will. IV. consisting of 22 parts.
22 bundles of Privy Seal Warrants and Signed Bills of 5 Will. IV.

From the Office of the Clerks of Records and Writs:—

The Enrolments of 54 Decrees in Chancery, together with the Docquets.

The above-mentioned Records have been arranged and deposited in their proper places. Moreover, in further pursuance of the arrangement that Mr. Holden should take charge of Mr. Black's Department, he effected the troublesome removal of the Documents noticed in the Fourteenth Report (I. § 4,) and also in the present Report (I. § 3, II. § 30).

28. *Arrangements, Repairs, Indexes, &c.*—All the Indexes which have been made of late years to the modern Rolls have been bound, and a great number of the ancient Indexes, which were much injured by constant use, have been carefully inlaid and otherwise repaired. These operations remain in progress, but the reparation of the old Indexes is a very delicate and tedious operation, requiring much time and attention. Some of the ancient Indexes have also been bound. Mr. Holden has been employed upon the Enrolments of the Decrees in Chancery, transmitted in the shape of membranes by the Clerks of Records and Writs. These he has made up into Rolls, adding the usual marginal notes and numbers, and he has made up the Docquets in corresponding bundles. He has also continued indexing the Deeds enrolled on the Close Rolls, upon which the Clerks have also been working, under his superintendence. The Rolls thus operated upon are of the years 1826, 1827 1834, and 1835.

Mr. Sharpe has proceeded with a Calendar to the Proceedings on the Common Law Side of the Court of Chancery; and he has also made and superintended the making of Copies of the alphabetical Indexes to the Patent Rolls of the reigns of Edward VI. and Philip and Mary, and the first five years of James I. Mr. Sharpe, besides performing his duties at this office, has also given attendance at the Tower and Chapter House, when needed by the absences of the Assistant Keepers placed in charge of those Departments.

Mr. Holden's time has also been much employed, under the direction of the Deputy Keeper, in matters connected with the New Repository, and the supply and measurements of the Presses and Fixtures, and otherwise in aiding the Deputy Keeper relating to the same.

Further details of the repairs, &c., appear in the Tabular Summary. (App.)

ROLLS HOUSE.

Pell Records, and other Records of the Receipt of the Exchequer, late in the Custody of the Comptroller-General, &c.; Treasury Records; Slave Registration and Slave Compensation Records; Welsh Records; &c.—(Assistant Keepers, Mr. Holden and Mr. Sharpe.)

29. *Business of the Division.*—The business of this Division, arrangement of the Records, and all matters concerning this Division continue to be conducted by Mr. Lascelles and Mr. Knight, who, when needed, receive instructions from the Assistant Keepers in charge. The amount of business for which fees are paid will appear from the Tabular Summary. (App.) Much time has been occupied in Government business, and also in attending to Literary Inquirers. During the greatest portion of the year the efforts of the Officers of this Branch have been principally directed to the disposal of all unsorted Documents into such systems of arrangement, whether temporary or final, as will make them readily accessible to the uses of the public, previous to their removal into the New Repository, and in such a manner also as to facilitate such removal. The miscellaneous contents of this Division render such a proceeding almost imperative, in order to avoid confusion, otherwise inevitable; and to carry out the plan, Mr. Lascelles found it became necessary to re-examine the contents of the whole office, to assign to everything a place, and to come to a final decision

relative to all Documents which may have been treated as miscellaneous, or set aside for future consideration. These proceedings, in addition to the current business of the office, have left little time for making Calendars or Indexes.

30. *Transfers.*—The following Transfers of Records have been effected in the past year: one of them of considerable bulk and importance, viz., the Transfer from the Treasury Chambers of Records which comprise Treasury Books of Entry, Books of the Revenue Department, Books of the Bill Department, and Miscellaneous, as mentioned in the Fourteenth Report (I. § 4). On the 10th May 1853 an official survey was made, in a room on the basement at the Treasury, of certain Treasury Records recommended for removal from thence to the Public Record Office, in such manner as is mentioned in the Fourteenth Report (I. § 4). On the 13th of May following, the removal was effected (I. § 3) and by the 18th the whole were placed in order in various rooms on the second story of the Rolls House.

The following is a list of the Records so removed, according to the schedule thereof transmitted hither prior to their removal:—

Minute Books, 1667 to 1672, and 1689 to 1800, 75 vols.
Money Books, 1676 to 1797, 61 vols.
King's Warrant Books, 1678-9 to 1800, 78 vols.
Warrant Books not relating to money, 1679 to 1800, 41 vols.
Customs' Books, 1681 to 1800, 33 vols.
Letter Books, 1682 to 1800, 45 vols.
Irish Books, 1683-4 to 1795, 14 vols.
Tax Books, 1703-4 to 1798, 9 vols.
North Britain Books, 1707 to 1797, 25 vols.
Patent Books, 1761 to 1793, 3 vols.
Wood Books, 1773 to 1797, 2 vols.
Auditors' States of Account, 1776 to 1800, 7 vols.
Council Books, 1793 to 1796, 2 vols.
Department Books in six Divisions; viz.—
- Division 1. 1807 to 1848, 33 vols.
- „ 2. 1803 to 1848, 46 vols.
- „ 3. 1808 to 1848, 26 vols.
- „ 4. 1809 to 1848, 25 vols.
- „ 5. 1802 to 1848, 31 vols.
- „ 6. 1806 to 1834, 12 vols.

Reference Books in six Divisions; viz.—
- Division 1. 1806 to 1832, 17 vols.
- „ 2. 1819 to 1831, 5 vols.
- „ 3. 1823 to 1831, 3 vols
- „ 4 and 5. Nothing.
- „ 6. 1824 to 1833, 3 vols.

Reference Book, 1791, in tabular form, 1 vol.
"Bills referred to the Secretary of State" Book, 1 Feb. 1811 to 1818, 1 vol.
13 Bundles of Books relating to Public Services, &c., 1737 to 1800, 230 vols.
1 Bundle of Balancing Books, 1756, 1758, 1775, 3 vols.
2 Bundles of Payments on Account of Civil List Expenses, 1727 to 1753, 26 vols.
2 Bundles of Books, entitled "King's Account," 1747 to 1788, 10 vols.
1 Bundle of Civil List Occasional Payments, and other Books relating to the Civil List, 5 vols.
1 Bundle of Miscellaneous Books relating to Charge and Debts of the Civil List, 17 vols.
1 Bundle of Miscellaneous Books, Civil List, 7 vols.
1 Bundle of Odd Volumes of Supply Books and Civil List Accounts, 1713 to 1802, 5 vols.
1 Bundle consisting of Personal Informations, 1721; Salt, 1733; American Sufferers, and East Florida Orders, 1789, and 3 Miscellaneous; in all 6 vols.
Weekly, Quarterly, and Annual Accounts of the Public Revenue, 1793 to 1797, 1 vol.

Bill Books, 1765 to 1797, 4 vols.
Account of Bills drawn by Mr. Brook Watson, 1794 to 1796, 4 vols.
Account of Bills drawn by Mr. Davison and others, 1794 to 1799, 1 vol.
Treasury Fee Books; viz.—
Division 1. 1836 to 1849, 1 vol.
Division 5. 1817 to 1824, and 1831 to 1834, 2 vols.
Stamp Account; viz.—
Division 3. 1820 to 1834, 1 vol.
Yearly Accounts of Exchequer Fees, 1797, and 1802 to 1806, 6 vols.
Customs' Quarterly Establishments, 1844 to 1847 (London, October 1846, wanting); also London, July 1831, and January, April, and July 1834; also Outports, April 1834; making altogether 36 vols.
Books of the late Exchequer of Ireland, 21 vols.; viz.—Four vols. of Original Certificates of Receipts and Payments of the Pells, 1819 to 1822; nine vols. of Vice-Treasurer's Books, 1823 to 1831; four vols. of Teller's Books, 1826 to 1829; two vols. of Irish Revenue Returns, 1819 to 1823; one vol. of Receipts and Issues in the Treasury of Ireland, 1817; and one vol. relating to Tonnage of Shipping, 1775 to 1804.
Orders of the House of Commons, 1799 to 1810, 1 vol.
Returns to Orders of both Houses of Parliament, 1800 to 1817, 1 vol.
Certificates of Officers alive in the Colonies, 1811 to 1816, 1 vol.
Tontine Annuity Order Book, 1789, 1 vol.
Commissariat Estimates, 1815 to 1817, 1 vol.
American Claims, 36 vols.; viz.—Reports on Losses, &c., in 23 vols. (vols. I., IV., and XI., wanting), and other Reports in Alphabetical Order, marked A—Q.
1 Bundle of Rentals of annexed Forfeited Estates in Scotland, viz., Report to the King, 1756, and 106 Rentals, &c., which altogether have been reckoned as 107.
2 Original Treasury Commissions in Boxes, dated 19 July 1834, and 6 Nov. 1839.

Total - 1134

In July 1853, others were brought in from the State Paper Office, viz., a box containing fifteen Reports on American Loyalist Claims, with a bulky schedule attached to each; this removal took place in pursuance of a Treasury Minute of 21st June 1853 (Fourteenth Report, I. § 9) The Documents relating to the Claims of American Loyalists have been noticed in various preceding Reports (Tenth Report, II. § 19; Eleventh Report, II. § 41; Fourteenth Report, App. No. 1 *c*, § 5); but the transmissions were not completed. The dates have been previously stated (I. § 6.)

31. *Arrangements.*—As before stated (§ 29), the principal exertions of the officers have been directed towards resuming and completing the arrangement of series of Records commenced in former years; but nevertheless, the sortation of some classes as yet untouched has also been commenced. The latter consist of the contents of the loft over the engine-house in the Rolls Yard. These Treasury Papers have sustained very great damage before their removal into the custody of the Master of the Rolls, as detailed by Mr. Black in the Reports made by him thereon (Seventh Report, App. II. No. 1, § iv; Eighth Report, App. 1, No. 24; Ninth Report, App. 1, No. 11.) They received every injury to which papers can be exposed by their deposit in lofts and garrets, in vaults and cellars, in dust-holes and coal-holes, and where they were exposed to dust, dirt, and filth of every description, to damp and rain, and more than all, to foul water from the common sewer.

This task has required great labour, involving a mass of Treasury, Pells, and Auditor's Records, Slave Compensation and Slave Registration Records, French, Danish, Spanish, and American Claims' Records, &c., which required to be distributed.

32. *Treasury Records in the Loft.*—On the 6th of June 1853 the assistance of two workmen was obtained from the Carlton Ride. Their labours have been principally bestowed upon the Records in the loft of the engine-house in the

Rolls yard, removed from the vault under the Treasury in August 1846, and which were then described as consisting of 166 boxes; and, by the diligence of Mr. Lascelles, the whole of those Records have been brought into rough order, and the further progress of deterioration checked, preparatory to a thorough and more detailed arrangement. These are amongst the Documents which received great injury before they were transferred into the custody of the Master of the Rolls, as previously noticed (II. § 31). The operations have been of a tedious and dangerous character, the Documents having a peculiarly offensive and fœtid odour, and being agglutinated or adhering one to another, and page to page, in such a manner as to render the use of a paper-knife indispensable in separating them, while the gritty deposit or dust found universally on their surfaces was of a saline, pungent, and irritating character. The exertions of Mr. Lascelles have had a most disastrous consequence; for in consequence of his labours amongst these damp and filthy papers his right eye has been so severely attacked by inflammation that the sight has been entirely destroyed.

American Claims.—These were some of the papers already described, being for the most part much damaged by dirt and damp; many were in a very tender condition, greatly discoloured, and the writing nearly obliterated. Much attention has been bestowed upon their restoration and arrangement, which has progressed to the extent of about four-fifths. Though the most assiduous care has been used, many Documents, and portions of Documents have been lost, past all hope of recovery, having been reduced by wet in some cases to tatters and powder, and in others, by the obliteration of the ink, to the state of discoloured and almost blank paper.

East Florida Claims.—These have been opened and flattened out by the workmen, and are in this state left exposed for a time to the air for purification, having, like the foregoing Records, been much damaged and discoloured by sewage.

Accounts of the Groom of the Stole.—These Accounts have been partially arranged. They also formed part of those in the loft, and are very fœtid, having been saturated with the filthy sewer water whilst they were in the Treasury, but otherwise they have not suffered much, the paper being only stained, and the ink but little decomposed.

33. *Original Commissions for executing the Office of Treasurer of the Exchequer.*—More additions have been made to this series, or rather class, for it is altogether too imperfect to be called a series; it now consists of sixty-one Commissions, and extends from 1st June 1699 to 9th August 1845; those added were partly found dispersed in the Office, and were removed hither from the Treasury Chambers in May 1853.

34. *Original Patents in Boxes.*—These, which are all comparatively modern, and had been left behind in the office, have been collected to the number of forty-five, arranged chronologically, and numbered.

35. *Customs' Quarterly Establishment Books.*—Several volumes of these were included in the removal from the Treasury in May 1853; they have been cleaned, endorsed, and amalgamated with their proper series, which now extends, with slight deficiencies, to 1847.

36. *Treasury Fee Books.*—These volumes, transferred in January 1852, amounting to 142 volumes, (Thirteenth Report, I. § 9; II. § 36,) have, together with the sixteen volumes of Fee Books marked (I.) § 1, described in the Seventh Report (App. II., No. I.) and three volumes of Fee Books received with the Treasury Books transferred in May 1853, (I. §. 3,) been arranged and ticketed, and a list made.

37. *Registered Treasury Papers.*—The arrangement of the Registered Treasury Papers, and other Papers of the same nature, but unregistered, has been proceeded with; new series having been operated upon, and considerable additions incorporated with some of those formerly arranged and described in the Fourteenth Report (II. § 30). These additions were obtained from eleven sacks of papers, chiefly containing modern Commissariat Papers, but also along with them Papers relating to other Departments which required to be separated. The papers so selected were sorted into their several classes, stamped, arranged chronologically, and incorporated with those

formerly arranged. These various operations, to which all the Treasury Papers are subjected, occupy much time; and when it is stated that about 23,000 Papers, exclusive of inclosures, have been finally arranged in the past year, that number does not represent the manipulations which have been necessary for the arrangement; for, in the larger series, each document has been handled at least four or five times before it could be perfectly arranged. The following are the classes so treated and their estimated numbers as far as they were arranged and incorporated on the 31st of December 1853; many additions having since been made:—

Secretaries of State generally, Letters, from 1689 to March 1782	746
Home Office, Letters, from March 1782 to 1837	1383
Foreign Office, Letters, 1785 to 1838, partly flattened and pressed by the workmen, previously to being made up in bundles	6078
War and Colonial Office, Letters, 1794 to 1834	1160
Secretary-at-War, Letters, Reports and Memorials, 1689 to 1832, arranged in one series	470
Paymaster-General, Reports, 1689 to 1800; Letters, 1708 to 1837; Memorials, 1694 to 1837; Accounts, Abstracts, &c., 1689 to 1755	1743
Deputy-Paymasters (Morice and Sweet) Accounts, 1702 to 1712	27
Commissioners for Debts due to the Army, Certificates of Debentures issued to the Commissioners between 1718 and 1719; Reports, Accounts, and Abstracts, 1717 to 1722	59
Board of General Officers, Reports, 1715 to 1744	7
Half-pay Officers, Abstracts of Pay Lists, Letters, Lists of Pay due to Invalids, 1702 to 1720	25
Parliamentary Estimates, chiefly for Land Forces, 1694 to 1803	819
Comptrollers of Army Accounts, Reports, Letters, &c., 1694 to 1835	1302
Commander-in-Chief's Orders for Changes in the Quarters of Troops in South Britain, 1818 to 1820	264
Secretary to the Commander-in-Chief, Applications for Passages to the Colonies for Soldiers and their families, 1723 to 1809	272
Admiralty, Letters of the Secretary of the Admiralty, 1689 to 1838; Reports of the Commissioners, the Receiver-General, and the Solicitor of the Admiralty, 1691 to 1730; Orders of the Lords of the Admiralty, 1711, 1740; Licences for Transport Ships for America, 1776	1215
Receiver of Admiralty Droits, Certificates, or Accounts, &c., 1702 to 1712	22
Navy Commissioners, Reports, Letters, Memorials, Accounts, &c., 1696 to 1832	693
Treasurer of the Navy, Memorials, 1698 to 1836	1776
Commissioners and Treasurer of the Navy, Reports, 1691 to 1822	63
Lists of the Royal Navy, 1688 to 1695	7
Commissioners for Naval Abuses, Applications for Issues of Money, 1803 to 1806	6
Navy Accounts and Estimates, 1702 to 1819	62
Navy Debt, Estimates, States and Accounts, 1711 to 1808	26
Navy Miscellaneous, 1690 to 1804	11
Commissioners for Victualling the Navy, and Comptroller of Victualling and Transport Services, Reports, Letters, Memorials, and Accounts, 1690 to 1838	1,182
Commissioners of Transports, Reports, 1690-1718; Letters, 1795-1817; Lists, 1693-1702; Accounts, Estimates, &c., 1695-1726	366
Presentments, Memorials, Letters, in one series, 1691 to 1719	257
Commissioners for Sick and Wounded Seamen, and for exchanging Prisoners of War, Memorials, Representations, Letters, Accounts, Reports, &c., 1691-1781	276

Commissioners for building new Churches, Letters, in the nature of Applications for the remission of duties on building materials, and inclosing Certificates by the Commissioners authorizing the repair or building of the Church for which the remission is prayed, 1826-1838 - - - - - -	434
Mint, Accounts, 1696-1777; Letters, Memorials, &c., 1690-1809; Reports, 1689-1809; Miscellaneous, &c., 1689-1786 - -	472
Board of Trade, Reports, Letters, Applications for Salaries, &c., 1684-1819 - - - - - - -	545
States of Accounts, 1740-1795 - - - - -	352
Abstracts of Accounts, 1711-1778 - - - -	221
Cash Papers, 1722-1804 - - - - - -	392
Auditors of Public Accounts, Reports, Letters, &c., 1695-1823 -	249

The various operations necessary for the arrangement of the above, have also forwarded the arrangement of those that are still in progress; and by the knowledge of the nature of these documents so acquired, the classificat onof the remainder of the Treasury Papers, although large, is rendered easy. Of the classes in progress, but not arranged chronologically, during the past year, the following are some of the chief:—

Scotland.
Ireland.
America.
West Indies.
Law Papers.
Stamps and Taxes.
Customs.
Excise.
Board of Works.
Orders in Council.
Old Commissariat.
Private Petitions.
Applications for Issues of Money.
Applications for Export or Delivery of Goods.
Applications of Prisoners.
Advices of Bills.

Excise Papers.—These, consisting of different classes, have been opened out, flattened, arranged chronologically, and tied up in yearly parcels, in brown paper, to the amount of about 15,000.

38. *Exchequer Records:—Foundation Indentures of Henry VII.'s Chapel.*—These, found detached from their class, have been arranged and entered in the Catalogue, and restored to their series.

Receipts for Pensions (part of the *Tellers' Vouchers*) have had their arrangement completed. The estimated number so arranged during the past year is 15,690; but of these, by far the greater number has required to be handled at least six times before they could be finally arranged. The Receipts have been arranged quarterly and alphabetically according to the names of the persons to whom payable, under the following heads, the estimated total number arranged being 30,534:

	Estimated Numbers.
Sign Manual Pensions, 1790-1834 - - -	14,104
King George the Third's Pensions, 1825-1834 - -	6,005
Queen Charlotte's Pensions, 1819-1834 - -	2,983
Late 4½ Per Cent. Pensions, 1831-1834 - -	697
Queen Caroline's Pensions, 1823-1834 - - -	735
Pensions of the Late Civil List of Geo. IV., 1832-1834	1,705
Late African Company's Pensions, 1825-1834 -	465
Late Lottery Officers' Pensions, 1827-1834 - -	620

Lord Gage's List of Pensions, 1784-1830 - -	930
Vaudois, Poor of St. Martin's, and other Pensions, 1783-1832 - - - - -	930
Treasury Pensions, 1782-1830 - - -	620
Princess Dowager and Queen Caroline's Pensions, 1783-1796 - - - - -	232
Princess Dowager's Pensions, 1808-1830 - -	43
Pensions to Foreign Ambassadors and Ministers, 1831 and 1832 - - - - - -	465
	30,534

39. *Slave Compensation Records.* — Upon the final sortation of these Documents (Eighth Report, II. §§ 97, 98; Ninth Report, II. § 12; Tenth Report, II. § 19; Twelfth Report, II. § 43; Thirteenth Report, II. § 40; Fourteenth Report, II. § 31), great numbers have had to be re-incorporated in the bundles of papers previously made up, so as to render new wrappers, new indorsements, and new tickets very often necessary; thus, for instance, the Trinidad Claims, originally contained in five bundles, now make ten; and the British Guiana Claims, originally nine bundles, now make twelve. The Valuer's Returns have been tied in convenient parcels in brown paper wrappers and labelled.

40. *Slave Registration Records.*—Measures have been taken for the final disposal of all the loose and unbound papers of this class (Twelfth Report, I. § 7, II. § 39; Thirteenth Report, II. §§ 36, 41). No plan seems to apply so well to Documents belonging to classes not frequently referred to, as that of tieing them up in brown paper, with labels, whereby they are preserved in order, rendered readily accessible, kept aired, and secured from the irreparable injuries caused by dust or careless moving.

41. *French Claims' Commission Papers.*—The arrangement of that portion of these Records which was removed into this office on the 1st and 8th of November 1851, has been completed by Mr. Lascelles (Fifth Report, I. §5, II. § 37, App. I. No. 6; Thirteenth Report, II. §§ 36, 42; Fourteenth Report, I. § 7, II. § 32.) The work was not achieved without difficulty, one Board of Commissioners adjudicating on the above three several classes of Claims, which consequently were mixed up together and thrown into such a state of confusion as to render a careful perusal of each paper necessary, in order to ascertain not only the particular Claim to which it might refer, but the class of Claims also, viz., whether French, Danish, or Spanish. And, with respect to those papers, the contents of which did not yield information sufficiently explicit, or rather so scanty as to be little or no clue in defining their precise places, and which have been consequently denominated Miscellaneous, the labour was enhanced twofold; as notwithstanding the barrenness of the contents, it still became necessary to decide upon and to assign to them a definite class and to place them either with French, Danish, or Spanish Claims.

42. *Welsh Records.*—The opening, flattening, filing, and chronological arrangement of the Welsh Fines for the counties of Chester, Montgomery, Denbigh, and Flint (Seventh Report, I. § 6, II. § 6; Eighth Report, App. I. No. 18; Tenth Report, II. § 19; Fourteenth Report, II. § 33), has been continued; but to no great extent, viz., to 1806 only, there having been several other matters of more pressing importance to be got through.

Chapter House.

Common Law, Exchequer, and Miscellaneous Records.—(Assistant Keepers, Mr. Devon and Mr. Burtt).

43. *Business of the Division: Proceedings of the Court of Wards and Liveries, Court of Requests, Miscellanea, &c.*—The amount of business in this Division will appear from the Tabular Summary (App.). Mr. Devon is employed upon the continuation of his very useful Tabular Index to the proceedings (principally Bills, Answers, and Depositions) of the Court of Requests, and has indexed, as to date, party, and subject, 1,390 suits,

averaging perhaps three documents to each suit; making a total of 4,170 documents, as follows:

Hen. VIII.	46
Edw. VI.	7
Phil. & Mary	9
Eliz.	350
Jas. I.	304
Chas. I.	674
	1,390 Suits.

All these Documents are well and plainly written, and generally in fine preservation. They can be used therefore with great facility, and abound with useful information relating to families, to property, and to private history, as has been fully explained in preceding Reports (Ninth Report, II. § 2; Tenth Report, II. § 2; Eleventh Report, II. § 37; Twelfth Report, II. §§ 7-10; Thirteenth Report, II. § 24; Fourteenth Report, II. § 27). Mr. Burtt has commenced the sortation of the large mass of papers belonging to the Court of Wards and Liveries, and Court of Requests, and some thousands of these Documents have been distributed into their respective classes. They may be distinguished generally into two divisions; viz., Drafts of the various documentary processes of the Courts; and original and substantive Documents of those Courts and of parties to suits therein. The quantity already sorted fills eighty-six pasteboard boxes. These Documents, noticed as above mentioned, abound with very valuable information, especially in relation to individual history.

The contents of three boxes containing "Decayed Miscellanea" have been carefully examined, and many Deeds, Privy Seals, and Inquisitions selected from them. A bundle of Inquisitions post mortem, nearly entire, found among them, has been indexed and put in its place. An account of the general nature of the Miscellanea in the Star Chamber Presses has been given in the Fourteenth Report (II. § 27). Progress has been made in describing many of these Documents, and in assigning others to the classes to which they belong.

44. *Notes of Fines.*—The Notes of Fines from the reign of Charles II. to that of George III. have all been put into covers, endorsed, and re-arranged on the shelves.

The numbering, stamping, and entering of the contents of the bundles of Notes of Fines has been resumed (Second Report, II. § 26, App. I. No. 22 *b*; Third Report, II. § 17; Fourth Report, II. § 28; Fifth Report, II. § 42). Those for the reign of George III., upon which a commencement had been made, are now in hand. This work is rendered more necessary for the Documents of this period by the numerous deficiencies which have, from time to time, been discovered among them, and which have formed the subject of special communications (Fifth Report, II. § 42; Sixth Report, II. § 65, App. I. Nos. 10 *b* and *c*; Seventh Report, II. § 16). The operations are now rendered more complete by comparing the number of the Documents with the entries in the Index, and any deficiency or other difference being noted. Seven bundles have been thus checked.

45. *Papers of the Solicitor to the Treasury.*—The various proceedings relating to the Papers of the Treasury Solicitor are noticed in a previous portion of the Report (I. § 4). They are kept in the chests and boxes in which they have been transmitted, it being impracticable at present to contemplate their further arrangement.

46. *Census Commission Papers.*—The Enumeration Books of the Census Commission of 1851, noticed in a preceding section of this Report (I. § 7) are now all deposited in this Division, in boxes, according to the conditions imposed by the Master of the Rolls.

III. General Matters connected with the Care and Management of the Records, and the Record Establishment.

1. *Aid rendered to Government with respect to Government Documents, &c.*—The business connected with or arising out of the transmission of Documents from various Government Departments continues to increase, so as to occupy a

very considerable portion of the time of the Officers. A summary of the proceedings hitherto had will be found in my Fourteenth Report (III. § 2). The additions which have been made to the previous stock during the period covered by this Report have been noticed in preceding sections (I. §§ 3, 4, 6; II. §§ 27, 30, 46, 47), and a very great increase is expected to be made by transmission from Your Majesty's Board of Admiralty. The Accountant-General of the Navy, by his letter of the 21st February 1854 (I. § 5), requires the Master of the Rolls to receive into his custody, and to provide for their future increase.

And according to a statement showing the Numbers of Books, Papers, &c. &c., proposed to be forwarded from the Five Departments of the Admiralty at Somerset House (as soon as the Repository is ready to receive them) to the New Repository of Records under the Custody of the Master of the Rolls. Their numbers and the space that will be required for future accumulation appear to be as follows:—

Department.	To be removed as soon as the New Repository is ready to receive them.	Space that will be required for future.
The Surveyor of the Navy -	None.	None.
The Accountant-General of the Navy - -	Vols. Boxes. About 8,178 and 9 of Papers „ 1,000 and 100 „	For about 1,000 vols. and 20 boxes annually.
The Storekeeper-General of the Navy - -	None.	Doubtful.
The Comptroller of Victualling - -	Space equal to about 30,000 cubic feet.	
The Director-General -	None.	None.

This branch of the business of the Public Record Establishment, *i. e.*, the management of Government Documents, becomes of increasing importance, and the matter has been fully examined into, and the results stated in a Report made by the Deputy Keeper to the Master of the Rolls, 30th July 1853, in consequence of questions now under discussion relating to the union of the State Paper Office with the Record Department, in manner stated in several preceding Reports (Tenth Report, I. § 9, App. I. No. 1; Thirteenth Report, I. § 13; Fourteenth Report, III. § 1.) This Report has been communicated by his Honour to the Lords of Your Majesty's Treasury, as well as to Your Majesty's three Principal Secretaries of State, &c., as previously mentioned (I. § 8).

2. *Literary Inquirers.*—The arrangements for the admission of Literary Inquirers continue to work satisfactory. The attendances at the Offices by Searchers of this Class for the year 1853 have been 505, and about 3,500 Documents have been consulted by them.

3. *General Record Repository.*—The progress of this building, commenced in pursuance of the vote taken in 1850, has been stated in preceding Reports (Eleventh Report, III. § 1; Twelfth Report, III. § 1; Thirteenth Report, III. § 1; Fourteenth Report, III. § 1). The shell of the building having been completed about the month of July 1853, it appeared to the Master of the Rolls that it would be highly desirable that one room of the Record Repository should be fitted up with models of the racks or presses intended for the Records, and also of the galleries and other means of access to the same, all of which are to be constructed of iron. This proceeding was considered expedient, inasmuch as there are many questions connected with the consideration of objects of this class which neither verbal descriptions nor even drawings can render sufficiently intelligible, and the models being submitted bodily to the examination of the Officers of the Establishment, they will better be able to form a judgment thereon. Application was therefore made, 15th August 1853, to Your Majesty's Board of Works requesting that a room should be fitted up accordingly. When the presses are completed, the removal of the Records from the present Repositories will take place—a task not light or easy under any circumstances, but peculiarly difficult with respect to the Records in the Repository at the Carlton Ride. These Records belong principally to

the Courts of Common Law, and are considerably resorted to for use and consultation; and it will be absolutely needful that the removal be conducted so alertly and systematically that not more than one clear day should elapse during which the Records should be inaccessible to the Searcher. Your Majesty's Commissioners of Works are desirous of receiving possession of the Carlton Ride for building purposes, and every effort will be made by this Department to comply with their wishes and directions.

All which is most humbly submitted to Your Majesty.

(Signed) FRANCIS PALGRAVE,

31st March 1854. *The Deputy Keeper of the Public Records.*

I most humbly submit to Your Majesty that this Report is made by the Deputy Keeper of the Public Records, under my direction, pursuant to the Statute.

(Signed) JOHN ROMILLY, M.R.

OFFICES.	ARRANGEMENT, REPAIRS, &c.	REMOVALS.
ROLLS HOUSE.	TREASURY RECORDS:— Cleansing, sorting, stamping, and arranging various classes. EXCHEQUER RECORDS:— Receipts for Pensions.—Alphabetical arrangement completed. Fee Books.—161 volumes arranged and ticketed. SLAVE COMPENSATION RECORDS:— Incorporating some thousands of neglected papers. SLAVE REGISTRATION RECORDS:— Incorporating loose papers. CLAIMS ON FRANCE RECORDS:— Arrangement completed. WELSH FINES:— Cleaning, flattening, filing, sorting, and arranging, continued.	TREASURY CHAMBERS to ROLLS HOUSE—Certain Books, &c., pursuant to Treasury Minute of 21 December, and Treasury Letter of 29 December, 1852. STATE PAPER OFFICE to ROLLS HOUSE—15 Reports on Claims of American Loyalists; pursuant to Treasury Minute of 21 June, and Warrant of 2 July, 1853.
ROLLS CHAPEL.	CHANCERY:— Various Membranes, &c. — Damped. 8 — Mended. 2,184 — Sewed. 145 — Tickets. 12	ENROLMENT OFFICE to ROLLS CHAPEL—Recognizance Rolls, 1837 and 1838. Close Rolls, 1838. Memorials of Annuities, 1838. PETTY BAG OFFICE to ROLLS CHAPEL—Patent Rolls, and Privy Seal, &c., bundles, 5 Will. IV. OFFICE OF CLERKS OF RECORDS AND WRITS to ROLLS CHAPEL—54 Decrees and Docquets.
TOWER.	CHANCERY:— Inquisitions Post Mortem and Ad Quod Damnum — 9,838 more have been entitled, &c.; and the arrangement of all those at the Tower is completed. Miscellaneous—(Consisting of Petitions to the King in Council, and to Parliament; Writs of various kinds; &c.;) 11,740 flattened, cleaned, and mended; 6,123 stitched in parcels of ten, preparatory to binding; 3,759 sorted and arranged.	- - - -
CHAPTER HOUSE.	COMMON PLEAS:— Fines, Notes of—Car. II. to Geo. III., re-covered and endorsed; Geo. III., contents of the bundles stamped, numbered, and entered, and the numbers compared with entries in the Index; in progress: great deficiencies discovered. COURT OF WARDS AND LIVERIES—COURT OF REQUESTS:— Sorting the documents of these Courts (which for want of care formerly have become what may be termed Miscellaneous), and arranging in their respective classes. COURT OF STAR CHAMBER:— Some progress made in examining the Miscellaneous and in sorting them into classes. TREASURY SOLICITOR'S PAPERS:— In course of examination.	No. 10, WHITEHALL to CHAPTER HOUSE—Treasury Solicitor's Papers, pursuant to Treasury Letter of 6 July, and Warrant of 22 July, 1853.
CARLTON RIDE. *Hunter's Division.*	EXCHEQUER:— QUEEN'S REMEMBRANCER—Miscellaneous—Arrangement of the calendared documents in progress.	- - - -
Roberts' Division.	QUEEN'S BENCH:— Doggett Rolls—Flattening, mending, re-tieing, &c., continued; 36 completed. COMMON PLEAS:— Concords of Fines—Sorting, arranging, ticketing, stamping, &c., continued; 146,076 cleaned and stamped; Geo. IV. and Will. IV. completed and placed in portfolios; Geo. III. in progress. Feet of Fines—Ric. I. to Ric. III., flattening, guarding, mending, stamping, and placing in cases, continued;—Edw. VI. to Will. IV. flattening, stamping, arranging in portfolios; completed to 19 Eliz., also the first seven years of Geo. II., and Geo. III. to Will. IV.; from 20 Eliz. to the end of Geo. II. (except a few years) remain to be done. Recovery Rolls—Cleansing, flattening, dividing, &c., continued. EXCHEQUER:— Original Decrees and Orders—Stray documents collected, arranged, and placed in portfolios (about 17,000 suits), as supplementary to the regular series, nearly completed. Original Orders—Cleansing, flattening, tieing in parcels, placing in portfolios, and ticketing. Particulars for Grants—Sorted, numbered, ticketed, and placed in portfolios. Pipe Rolls—Mending in progress. Pipe and Lord Treasurer's Remembrancer — Miscellaneous — Arrangement in progress. *Binding:*— 68 volumes belonging to various classes bound, and 4 volumes repaired.	EXCHEQUER OF PLEAS to CARLTON RIDE—Various Documents, from 1830 to 1846, at the request of the Lord Chief Baron of the Exchequer, pursuant to Warrant dated 27 May 1853.

OFFICE, for the Year ended 31st December 1853.

INVENTORIES.	CALENDARS.	INDEXES.	FEES. Searches.	Inspections.	Copies.	Authentications.	Attendances.	Amount of Fees. £ s. d.
- - - -	- - - -	- - - -	6	54	18	15	- -	10 4 0
- - - -	CHANCERY PROCEEDINGS (Common Law Side)—continued,	CHANCERY :— Close Rolls—1826, 1827, 1834, and 1835, in progress. Decrees—Entered up, 54.	684	1,459	233	113	8	304 15 6
- - - -	CHANCERY :— Miscellaneous: — (Petitions, Writs, &c.) 552 calendared.	- - - -	41	180	181	113	1	90 16 6
- - - -	COURT OF REQUESTS:— 1,390 suits calendared.	- - - -	61	123	47	16	- -	16 15 0
- - - -	EXCHEQUER:— QUEEN'S REMEMBRANCER—Miscellaneous—1,527 more done, making in all 87,219.	- - - -	- -	98	34	4	- -	9 15 0
EXCHEQUER—AUGMENTATION:— Particulars for Grants — continued — Edw. VI. and Ph. and Mary completed;—Eliz. completed as far as K.	CHANCERY:— Patent Rolls—continued from 25 to 29 Hen. VIII. EXCHEQUER — QUEEN'S REMEMBRANCER:—Depositions to 39 Eliz.	EXCHEQUER—AUGMENTATION:— Particulars for Grants — continued—Edw. VI.; from C. to H. done;— Ph. and Mary, completed; — Eliz. done as far as K. QUEEN'S REMEMBRANCER: — Bills and Answers—Additional Index made to those not entered in the Bill Books.						
		Q. Bench	68	92	36	21	1	41 8 6
		C. Pleas	649	95	352	333	- -	123 2 0
		Exchequer	79	283	203	102	- -	126 7 0
		Total -	1,588	2,384	1,104	717	10	723 3 0

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